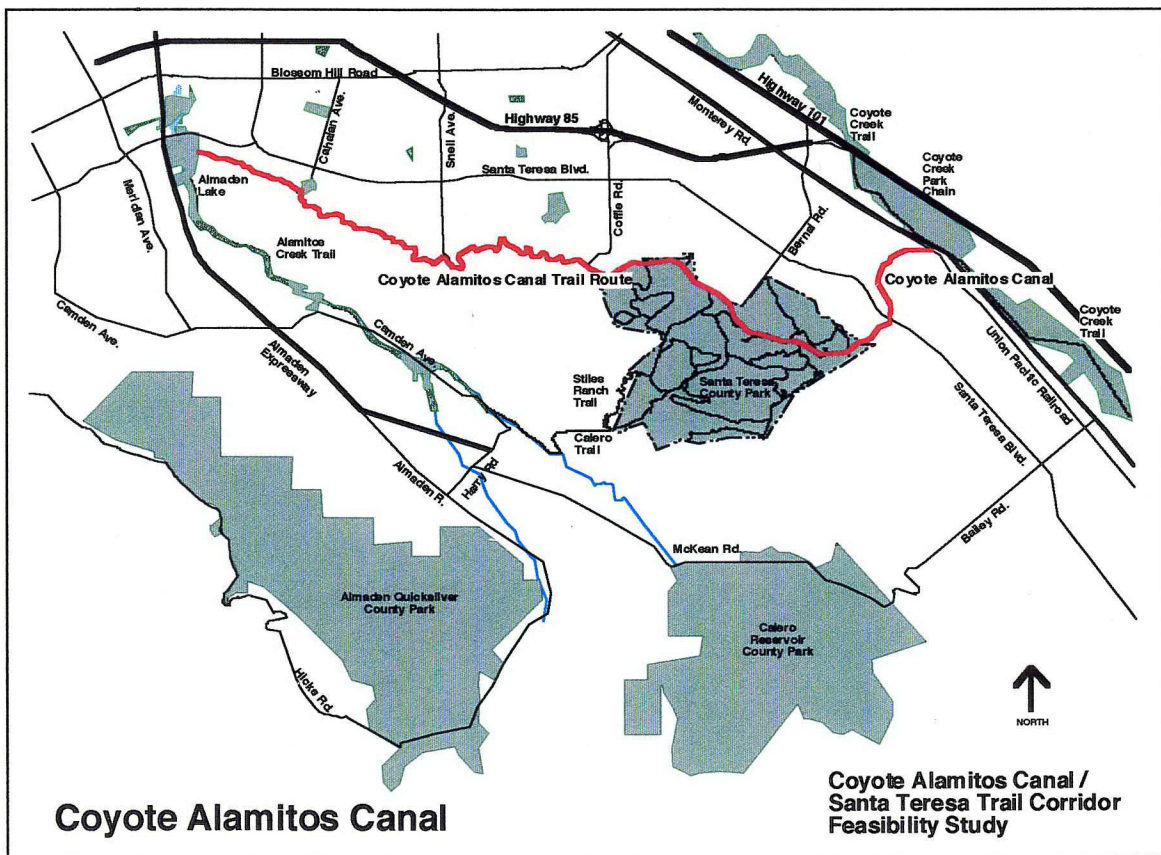


Coyote Alamos Canal / Santa Teresa Trail Corridor

Trail Feasibility Study

July 2004



Prepared for
City of San José
Department of Parks, Recreation & Neighborhood Services
by
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Existing Saturday Peak Hour Traffic Volumes

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I. Introduction



This study was done to determine the feasibility of developing a trail that would connect Almaden Lake City Park to Santa Teresa County Park and Santa Teresa County Park to the Coyote Creek Park Chain along the Coyote Alamos Canal maintenance road.

I. Introduction

Purpose of Report

The purpose of this project was to analyze the feasibility of developing a trail route along the Santa Teresa hills that would connect Almaden Lake City Park/Alamos Creek Trail, Santa Teresa County Park, and the Coyote Creek Park Chain. (Refer to *Map 1- Project Vicinity* and *Map 2- Regional Context* for the project location). The study explores in detail the technical challenges with opening the trail along the canal, as well as several alternative routes.

The findings from this report are intended to guide the City and the public in making informed decisions regarding the feasibility of developing a “*Santa Teresa Corridor Trail*” incorporating, where feasible, the Coyote Alamos Canal maintenance road.

This report presents:

- ❖ A brief history and description of the Coyote Alamos Canal
- ❖ An analysis of the feasibility of developing a trail along the Canal taking into account the present condition of the canal and limitations with its use
- ❖ A discussion of alternatives considered for developing a trail that would connect Almaden Lake City Park/Alamos Creek Trail with the Coyote Creek Park Chain
- ❖ A presentation of the findings and recommendations.

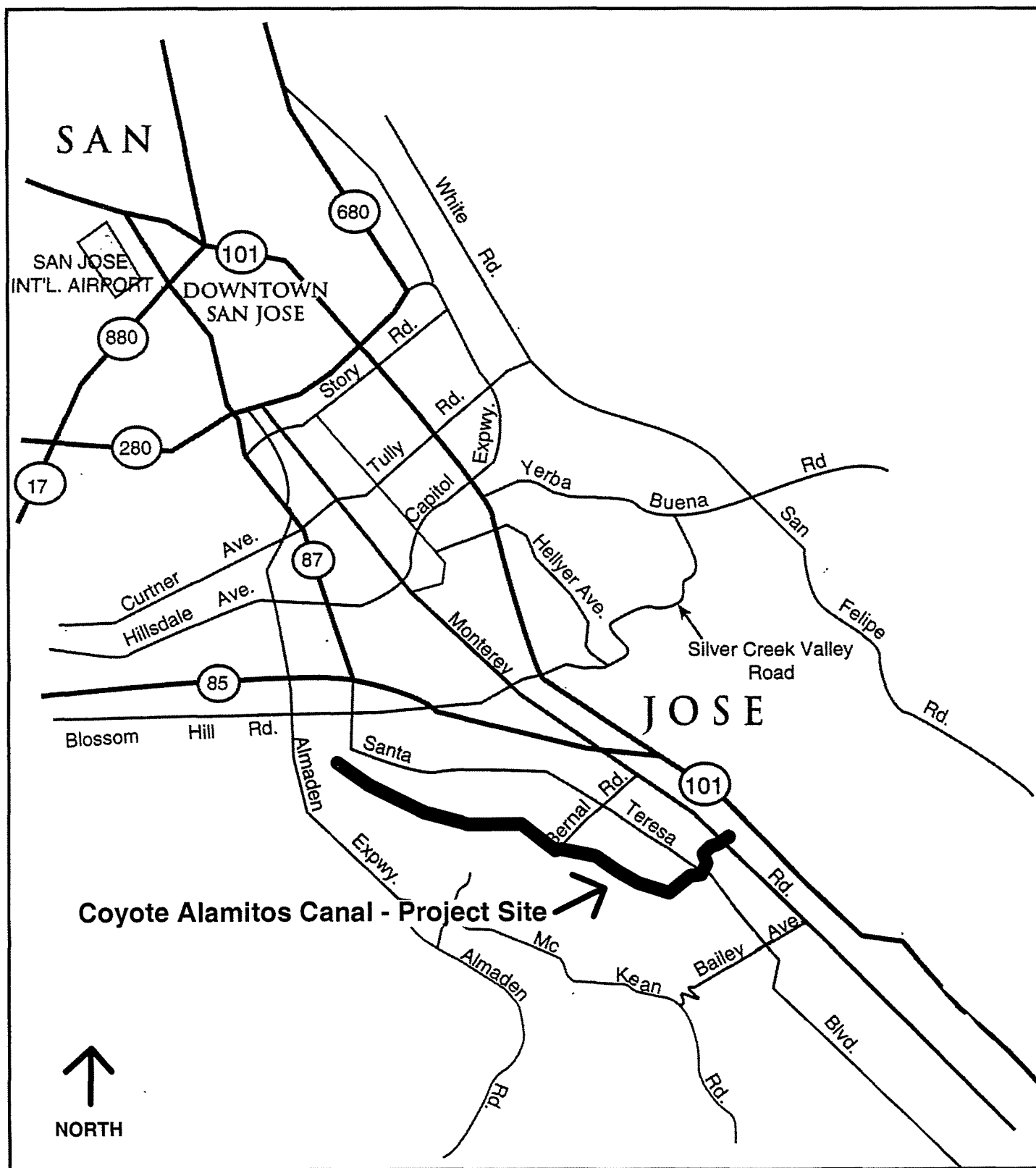
This report was prepared at the request of the City of San José Parks, Recreation and Neighborhood Services Department (PRNS).

Goals, Objectives & Strategies

At the start of the planning process, goals, objectives and strategies were established to guide the analysis of the canal route and to direct the consideration of alternatives. This guiding framework is presented below.

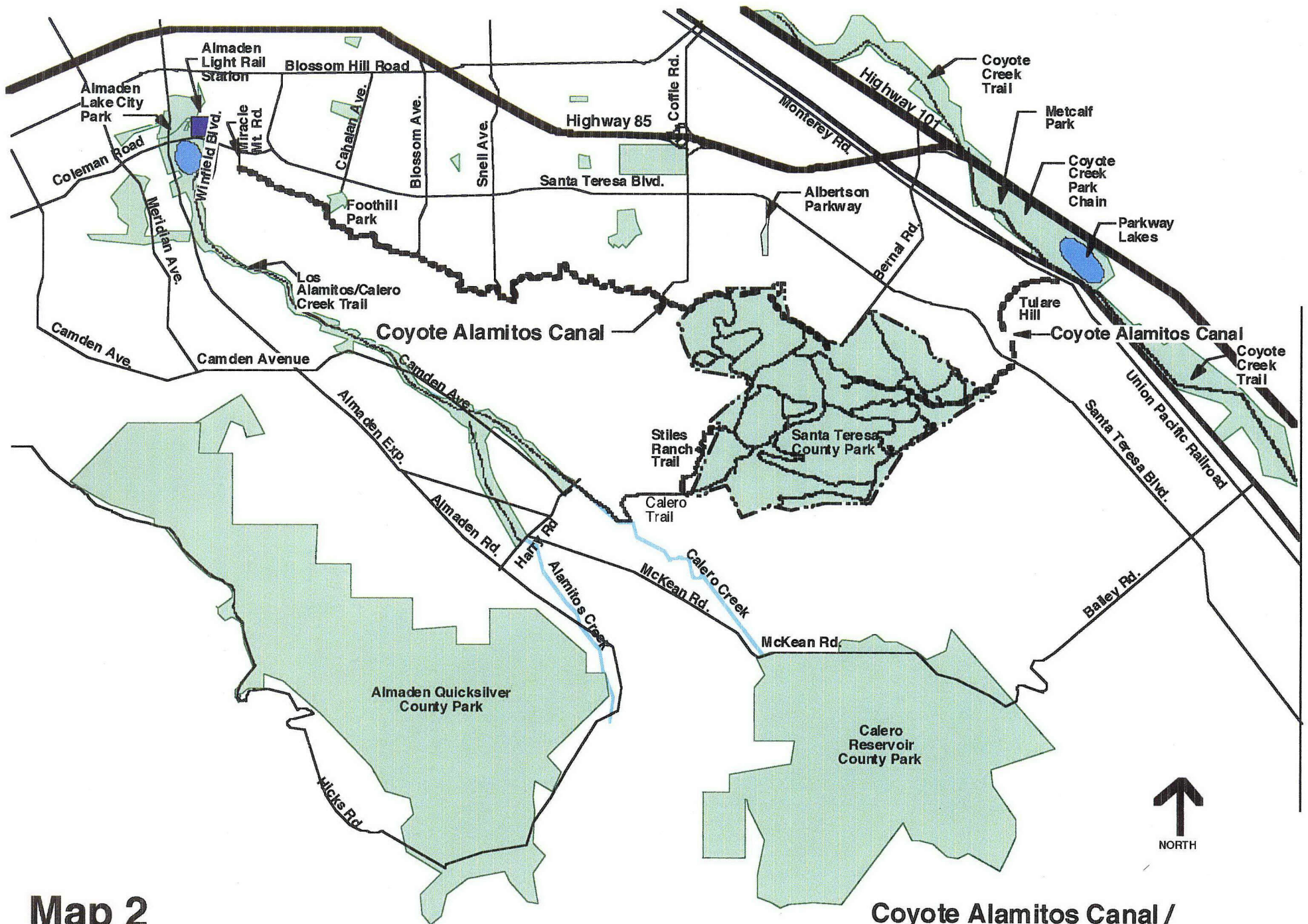
Goals

To implement City-wide goals as set forth in the *City General Plan* and the *City Greenprint, a 20-year Strategic Plan for Parks, Community Facilities and Programs* by incorporating, where feasible, the Coyote Alamos Canal maintenance road into a public trail system. (Refer to *Map 3 - Alternatives Considered in this Study* to locate the alternative trail routes considered by this Feasibility Study).



Map 1
Project Vicinity

**Coyote Alamos Canal /
Santa Teresa Trail Corridor
Feasibility Study**



Map 2
Regional Context

**Coyote Alamos Canal /
Santa Teresa Trail Corridor
Feasibility Study**

Objectives

- ❖ To provide needed traffic-free recreation opportunities
- ❖ To serve a large (approximately 88,000 persons) population, many of which are joggers, walkers, dog walkers, in-line-skaters, bicyclists and equestrians
- ❖ To enhance the value of individual parks to surrounding communities by augmenting the available recreation opportunities, and by providing alternative connections between these parks
- ❖ To improve non-vehicular access to city and regional parks and trails including, at a minimum, two existing parks – Almaden Lake City Park and Santa Teresa County Park
- ❖ To identify convenient and adequate staging areas to facilitate access to recreational use
- ❖ To provide for the enjoyment and appreciation of the natural environment
- ❖ To recognize environmental sensitivities and comply with environmental regulatory agencies and requirements by avoiding impacts to birds and other wildlife and the associated wetlands, riparian zones, serpentine soils and other sensitive habitats
- ❖ To give consideration to adjoining landowners on issues of privacy, security, liability, flood/fire hazards, and slope failure
- ❖ To work with the community to determine their vision and requirements for developing a “*Santa Teresa Corridor Trail*” on the east side of the Santa Teresa Hills incorporating, where feasible the Coyote Alamos Canal maintenance road.

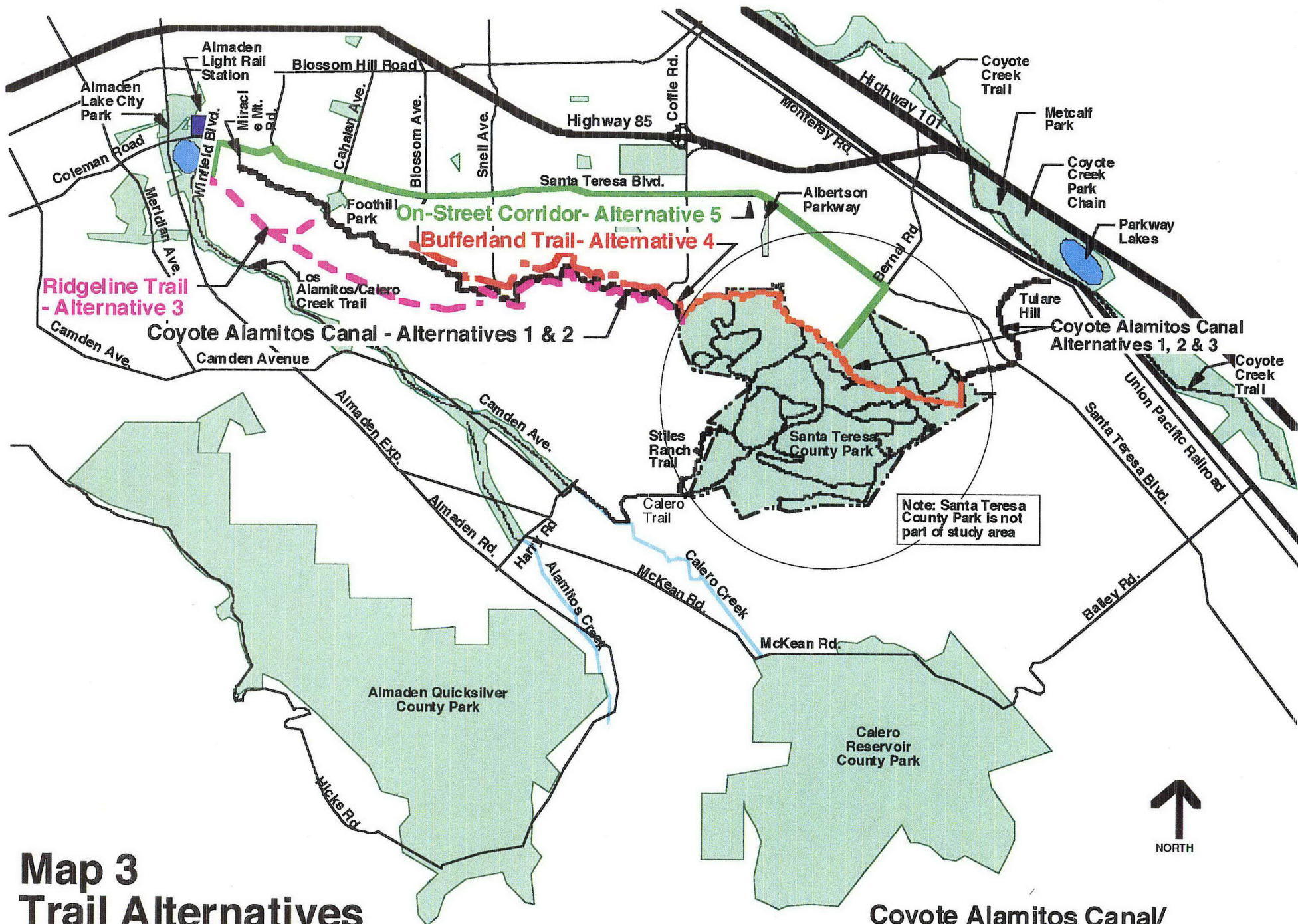
Strategies

- ❖ Create collaborative partnerships by forming a Technical Advisory Committee to determine the technical opportunities and constraints associated with developing a trail within the area.

Alternatives Considered

In concept, a “canal trail route” would follow the alignment of the existing Santa Clara Valley Water District (SCVWD) canal, which extends from Almaden Lake City Park to the Coyote Creek Park Chain and passes through Santa Teresa County Park. A trail in this area has the potential to link several proposed and existing regional and neighborhood trails and parks.

These parks could offer opportunities for staging (i.e. parking, restrooms), and recreation activities such as picnicking, swimming, fishing, and playing at the playgrounds located in the City Parks (i.e. Almaden Lake City Park and Metcalf City Park). There is also the potential to link to the Valley Transportation



**Coyote Alamos Canal/
Santa Teresa Trail Corridor
Feasibility Study**

Authority (VTA) bus and light rail transit systems, thus enhancing alternative commuting options in the region.

The proposed trail (as delineated in Alternative 1 and Alternative 2 and portions of Alternative 3) would be overlaid on an existing maintenance road where existing and feasible. In the sections where the canal goes underground, new trail links would need to be developed.

There are several challenges to developing trail Alternatives 1 and 2 and portions of Alternative 3 along the canal.

- ❖ Canal Function. The canal's original function was as a water conveyance facility for SCVWD to convey water from Anderson Reservoir to Lake Almaden and the Guadalupe River drainage basin. While it is no longer used for this purpose, it currently, and coincidentally, serves a role in the City's stormwater infrastructure system. Therefore, before any further study/ development of a recreational trail could commence, the City and the SCVWD would need to work together to either: 1) correct deficiencies in the current stormwater collection system to minimize current flooding and landsliding occurrences (if the canal is to be routed along the maintenance road as proposed in Alternative 1 and portions of Alternative 3); or 2) redirect the stormwater runoff from the hills that is now directed into the canal (if the canal is filled as proposed in Alternative 2).
- ❖ Land Ownership. Most of the land underlying the canal between Almaden Lake City Park and Santa Teresa County Park is in private ownership. Existing SCVWD easements limit use of the land to the development and maintenance of the water conveyance facility. The City would need to purchase the privately owned land or negotiate easements with the landowners to allow a recreational trail to be placed on their land. There would be significant costs associated with obtaining private land and /or easements.
- ❖ Engineering & Environment. Unstable terrain and sensitive environmental conditions adjacent to the canal and the sections where the canal goes underground create barriers to continuity. Streets and railroads which cross the canal also create barriers to continuity. These technical and environmental issues represent significant challenges to be resolved.

Due to the above listed challenges, the study concluded that no further analysis be conducted relating to providing a recreational trail along the canal between Almaden Lake City Park and Santa Teresa County Park at this time.

In order to identify a more feasible connection between Almaden Lake City Park and Santa Teresa County Park, the study then considered several alternative alignments for connecting the two parks. These included:

- ❖ A ridgeline alternative along the Santa Teresa Hills (Alternative 3)
- ❖ A shorter neighborhood trail adjacent to the canal that would link existing public lands (Alternative 4)
- ❖ Designated on-street bicycle routes and sidewalks that would link Almaden Lake City Park and Santa Teresa County Park. (Alternative 5).

Public Outreach

Public Outreach

Public outreach for this study included:

- ❖ One community meeting on April 23, 2003
- ❖ Input from the City Council Members from Districts 2 and 10
- ❖ Field investigations and peer review by a Technical Advisory Committee (TAC).

As the consultant team commenced its investigation, it learned that there were several community meetings held for other purposes where the public brought up the topic of a public recreation trail along the Coyote Alamos Canal maintenance road. At each of these community meetings, the public voiced its support as well as its opposition to this trail concept, with the majority of the speakers expressing opposition. In addition, the City has received e-mails, phone calls and letters from homeowners.

Those who are opposed to this trail have expressed their concerns regarding:

- ❖ Security
- ❖ Liability
- ❖ Trespassing onto their private homes/ranches.

Similar concerns were reiterated at a community meeting specifically scheduled to present this study. Refer to *Appendix B - Meeting Summary of April 23, 2003 Community Meeting Regarding a Trail along the Coyote Alamos Canal* for a summary of the community sentiment regarding this trail concept.

Planning Process

The planning process for the *Coyote Alamos Canal / Santa Teresa Trail Corridor Feasibility Study* began in May 2002 and was completed in July 2004. Research for this project included an analysis of the project area to determine the feasibility of developing a trail for public recreation purposes:

- ❖ Along the Coyote-Alamitos Canal/ maintenance road
- ❖ Within the neighboring area.

The consultant team obtained data from five sources:

1. Document review
2. Field investigations
3. Council Office input
4. Technical Advisory Committee input
5. Community input.

Using this information, the team gained an understanding of:

- ❖ The physical conditions of the site
- ❖ Physiological and policy restrictions
- ❖ Community concerns.

1. Documents Reviewed

Documents reviewed included *:

- ❖ SCVWD maintenance/ownership maps
- ❖ City Assessor Parcel Maps
- ❖ Codes Covenants and Restrictions for landowners adjoining the canal and easement language for the canal/canal maintenance road
- ❖ *Future Role of Coyote-Alamitos Canal*, a report prepared for the SCVWD in July 1983
- ❖ *Feasibility Study for Providing a Trail between Almaden Park and the Coyote Creek Park Chain*, report completed by Earth Metrics, for the City of San José in 1989.

2. Field Investigations

Field investigations for this project included an analysis of the existing site conditions along the length of the Coyote-Alamitos Canal maintenance road and the alignments where alternatives were considered. The consultant team, consisting of landscape architects, environmental planners and engineers also conducted investigations on site with City staff.

3. Council Office Input

The consultant team's research was augmented by input from the City Council Members from Districts 2 and 10, a Technical Advisory Committee (TAC) and the Community of Santa Teresa. The TAC and City Council involvement included a field meeting on July 11, 2002. The focus of this field meeting was a discussion of opportunities and constraints associated with accommodating public access on the canal maintenance road.

* For a full listing of documents and technical studies refer to *Section VIII - References*

4. Technical Advisory Committee (TAC) – Membership & Function

The TAC was comprised of agency representatives from:

- ❖ City of San José
- ❖ Santa Clara Valley Water District
- ❖ County of Santa Clara County
- ❖ Santa Clara County Open Space Authority
- ❖ California Utilities Commission
- ❖ Union Pacific Railroad.

Each of these agencies owns and/or has an interest in lands/easements on or immediately adjacent to the Coyote Alamos Canal. As such, they would have a direct or indirect role in determining the feasibility of implementing a public access trail along the canal maintenance road due to their policies, missions and operational requirements.

5. Community Input

Community input included:

- ❖ Public input at one community meeting on April 23, 2003.
- ❖ Written correspondence including letters from neighborhood associations and from community members having fee ownership on parts of the canal
- ❖ An Internet Web page established by community members of the East Santa Teresa Foothills Area.

Notices for the April 23, 2003 community meeting were sent to all residents within 1,000 feet of the Coyote Alamos Canal. Noticing was also provided to several community organizations (including the West Santa Teresa Foothills Neighborhood Association), and through the District 10 Neighborhood Newsletter. In addition, Council members sent letters and e-mail to individual residents who had contacted their offices expressing interest in this project since it was first discussed in November 2000.

The focus of this Community Meeting was to give an overview of the Coyote Alamos Canal Trail Feasibility Study and gather input from the community. At this meeting, the consultants presented the preliminary findings of the canal alignment and described the potential for developing alternative routes within the Santa Teresa Trail Corridor.

Community members came to the meeting with very diverse points of view and were able to work among themselves to unite and recommend a course of action. At the end of the discussion, a poll was taken at the request of the community. Community members were allowed to vote for as many of the options as they wanted. *Table 1 - Community Goals for Further Study the Santa Teresa Trail Corridor* on the following page provides the outcome from the poll regarding the community's preferences for further study.

TABLE 1
COMMUNITY GOALS FOR FURTHER STUDY OF
THE SANTA TERESA TRAIL CORRIDOR

| Alternatives** Presented | | % in Favor |
|---|--|-------------------|
| <u>Alternatives 1 & 2</u> | Pursue development of the entire canal route – Almaden Lake City Park to Coyote Creek Park Chain | 40% |
| <u>Alternatives 1 & 2 & 3</u> (southeastern portions) | Pursue development of a portion of the canal route – Cahalan to Coyote Creek Park Chain (Concern of neighbors residing along this route noted) | 30% |
| <u>Alternatives 1 & 2 & 3</u> (southeastern portions) | Pursue further study on focused areas (Santa Teresa County Park to the Coyote Creek Parkchain) | 100% |
| <u>Related to Alternative 3</u> | Preserve Santa Teresa Hills as Open Space (Preservation of hillside open space could create opportunities to implement ridgeline route) | 100% |
| <u>Alternative 3</u> | Pursue development of Ridgeline Trail | 75% |
| <u>Alternative 4</u> | No vote taken for Alternative 4 - Existing Public Lands between Blossom Ave & Santa Teresa County Park | NA |
| <u>Alternative 5</u> | Pursue development of the On-street Corridor | 0% |

** Refer to *Map 3 - Alternatives Considered in this Study* for location of alternative trail routes and *Section V - Alternatives Considered for Accommodating Trail Use within the Study Area* for a discussion of the route characteristics.

II. Project History & Summary of Findings



History

- 1983 The Santa Clara Valley Water District (SCVWD) conducted a study on the *Future Role of Coyote Alamos Canal*.
- 1989 The SCVWD developed a preliminary concept for abandoning a significant portion of the canal.
- 1989 The City of San José completed a study to determine the *Feasibility Study for Providing a Trail between Almaden Park and the Coyote Creek Park Chain*.
- 2001 The City of San José initiated this feasibility study to analyze the potential to develop a trail along the Coyote Alamos canal connecting Almaden Lake City Park with the Coyote Creek Park Chain.

Preliminary Findings - Course of Action – 2003

Prior to completing any further study of a recreational trail along the Coyote Alamos Canal the following actions are recommended:

- ❖ Conduct engineering design studies for the crossings at Santa Teresa Blvd., and the Monterey Highway/Union Pacific Railroad to determine the feasibility of developing a trail between Santa Teresa County Park and the Coyote Creek Park Chain
- ❖ Pursue opportunities to acquire and manage the east side of the Santa Teresa Hills as open space.
- ❖ Conduct engineering analysis/design studies to:
 - Develop localized retention systems to replace the function of the existing canal
 - Determine the capacity of the City system to transmit the calculated runoff
 - Determine the maintenance requirements of the facilities planned
 - Determine the impact a new hillside runoff system would have on minimizing future landsliding within and below the canal right-of-way and potential flooding of the residences below.

II. Project History & Summary of Findings

Project History

Creation of a public trail along the Coyote Alamitos Canal has been considered by various public agencies over the last 20 years. The following is a brief summary of the various studies that considered public access along the canal. The Santa Clara Valley Water District (SCVWD) initiated these studies with subsequent follow up studies prepared by the City of San José.

Abandonment of the Coyote Alamitos Canal Right of Way for Water Conveyance

1983 Study - Background. In 1983, the SCVWD conducted a study entitled the *Future Role of Coyote Alamitos Canal*. This study recommended that “*the District dispose of the canal by transfer to another public agency. If no public agency will accept the canal, then the District should plan and implement a project which removes the structure and restores the hills to their original contours*”. This study included a conceptual sketch illustrating the District’s vision for creating an earthen bench capable of supporting a recreation trail. This vision was contingent on a public recreation agency accepting the existing canal and reconfiguring the canal to accommodate recreational trail use.

Outcome. None of the local public recreation providers accepted the proposal. (Refer to *Appendix A- Santa Clara Valley Water District’s Proposed Abandonment Study Maps & Cross Section* to view a conceptual sketch of this proposal).

1989 Study - Background. In 1989, the SCVWD developed a more detailed concept for abandoning a significant portion of the canal. This concept called for filling and restoring the site so that it would conform to the natural contours of the surrounding hills. Under this scenario, existing siphons* would be plugged at both ends, and berms and drainage channels would be constructed to convey water to the City’s storm water system. *Appendix A - Santa Clara Valley Water District’s Proposed Abandonment Study Maps & Cross Section* illustrates this plan in greater detail.

Outcome. To date, no action has been taken as a result of this study.

* A siphon is depressed portion of a sewer or drainage pipe located below the hydraulic grade line (normal water level) used to pass flows under obstructions such as roadways.

Proposal to Develop the Canal Right of Way as a Public Recreation Trail

1989 Study - Background. The City of San José investigated the potential for using the canal as a recreational facility. At the City's direction, Earth Metrics completed the *Feasibility Study for Providing a Trail between Almaden Park and the Coyote Creek Park Chain* in August of 1989. The primary purpose of this study was to identify a feasible route for connecting Almaden Lake City Park to the Coyote Creek Park Chain. The study considered three alternatives within the Santa Teresa Hills corridor – one on the east side of the hills, one on the ridgeline, and one on the west side of the hills. The east side and ridgeline alternatives both incorporated the Coyote Alamos Canal maintenance road into the proposed trail alignments.

Outcome. The findings from the Earth Metrics report concluded that “*the City's first priority in providing a recreational trail along the canal should be in not exposing itself to unnecessary liability claims in acquiring portions of the canal that may be susceptible to catastrophic failure.*”

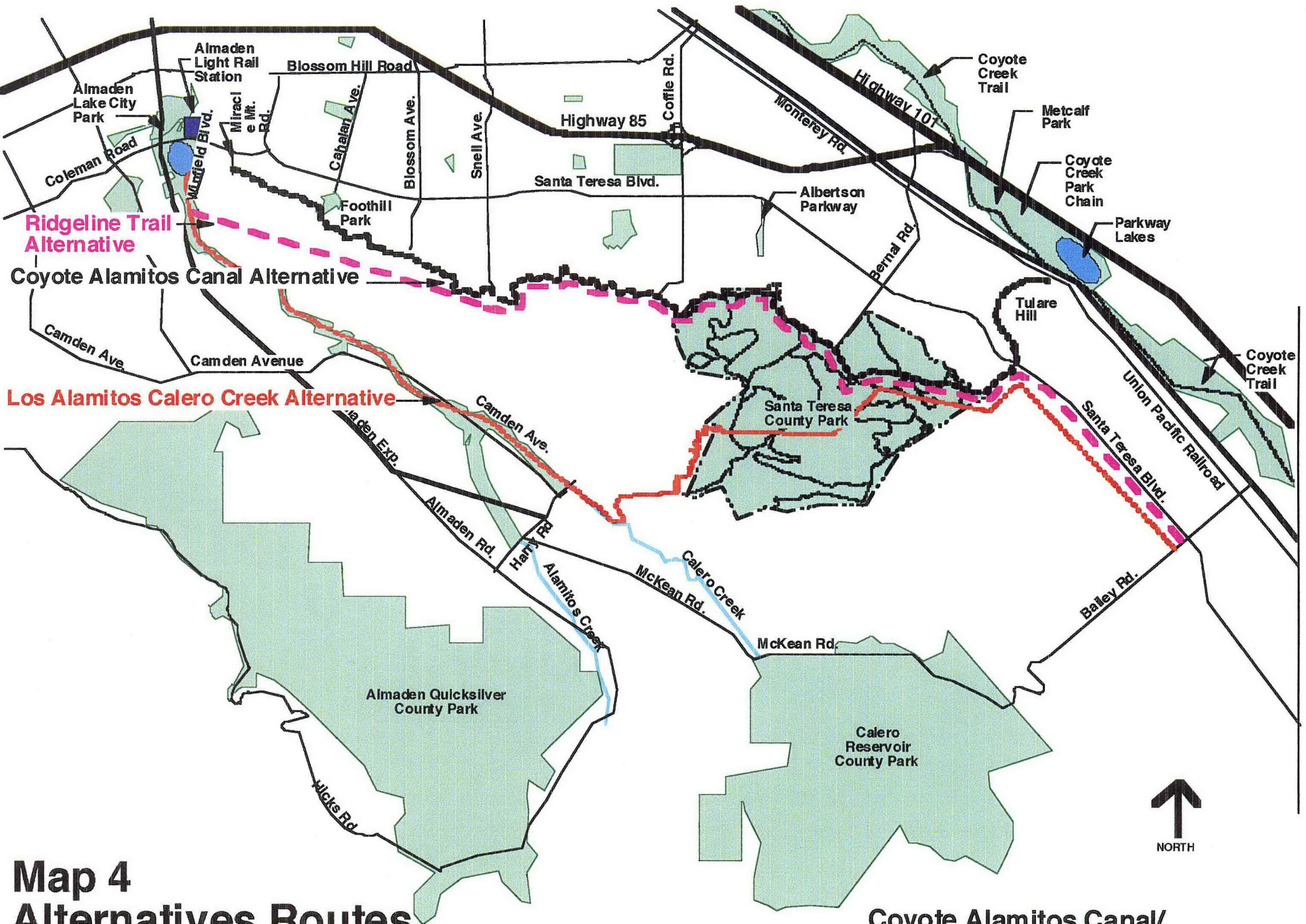
The report concluded that City could best accomplish this by:

- ❖ Exercising extreme caution in assuming responsibility for any portion of the canal right of way, given the SCVWD's own assessment of the canal, which in 1983 found that, “*creep is present along the entire alignment and the consequences of (land) sliding have become serious*”
- ❖ Acquiring only those portions of the canal that would not be subject to failure and that would be necessary to complete the linkage
- ❖ Finding, where possible, alternate means of providing a trail connection between Almaden Lake City Park and the Coyote Creek Park Chain along major portions of the corridor.

Current Study - Background PRNS submitted a request to the Coastal Conservancy for grant funds to initiate a study to fully assess the feasibility of developing a public recreation trail along the Coyote Alamos Canal maintenance road. In June 2001, a grant was awarded to the City to develop a Feasibility Study/Master Plan for the Coyote-Alamos Canal Trail. In accordance with this agreement, the *Coyote Alamos Canal / Santa Teresa Trail Corridor Feasibility Study* has been prepared.

Outcome - Continued Support for Past Conclusions

This report, in concurrence with the 1989 Earth Metrics study, recommends that the City's Department of Parks, Recreation and Neighborhood Services not pursue development of a public recreation trail within the canal right of way as long as the canal structure is in place and serving a role in the City's stormwater infrastructure system.



Map 4
Alternatives Routes
Considered in Prior Studies

**Coyote Alamos Canal/
 Santa Teresa Trail Corridor
 Feasibility Study**

If the SCVWD initiates abandonment of the Canal, and the SCVWD and the City enter into a joint study to reconfigure the storm drainage system, the City's Department of Parks, Recreation and Neighborhood Services could team with them to look at opportunities for reusing all or portions of the canal alignment as a trail.

Reasons for Continued Interest in the Coyote Alamitos Canal as a Recreation Trail

Development of a trail along the Coyote Alamitos Canal maintenance road appears, at first consideration, to be a suitable alignment for a public recreation trail. As such, the Coyote Alamitos Canal creates an attraction to trail users from the surrounding residential areas, and meets many of the goals for trails established in the City's General Plan policies and the Greenprint's vision for a more livable community. As a result, the Canal currently functions as a defacto trail in that many people are trespassing to use the facility.

TABLE 2
BENEFICIAL ELEMENTS SUPPORTING A RECREATION TRAIL ALONG THE CANAL

| Element | Canal Description |
|-----------------|---|
| Characteristics | <ul style="list-style-type: none"> ❖ The canal consists of an 11-mile long channel with a right of way that varies from 8 feet to over 100 feet in width. ❖ The maintenance road, typically 10 to 12 wide, is constructed of graded, compacted earth overlaid with gravel and is virtually level |
| Links | <ul style="list-style-type: none"> ❖ The Canal can be easily accessed from many locations within established neighborhoods, including several local schools. ❖ The Canal provides opportunities to link to regional and neighborhood parks. ❖ The Canal provides opportunities to link to City's Bicycle Commuter Network, and Valley Transportation Authority's bus/light rail transit. |
| Views | <ul style="list-style-type: none"> ❖ The Canal's raised elevation offers panoramic views of the open terrain of the immediately adjacent hills, the valley below, and the mountain ranges in the distance. |

Constraints to Trail Development

While the Coyote Alamitos Canal creates an attraction to trail users from the surrounding residential areas and meets many of the City's goals for trails, there are a number of challenges that would need to be addressed. These challenges are summarized in *Table 3* below.

TABLE 3
FACTORS CONSTRAINING DEVELOPMENT OF A TRAIL ALONG THE CANAL

| Factor | Description of Constraints |
|---------------------------------------|--|
| Function | ❖ The canal functions as part of the City's stormwater infrastructure system. |
| Ownership | ❖ Private land ownership of the canal, and restrictions on existing easements, limit legal public access opportunities. |
| Gaps in Route | <ul style="list-style-type: none"> ❖ In areas where the water was conveyed by underground pipes, instead of by open canal, there is no canal maintenance road, which potentially limits trail continuity. This situation typically occurs where there are adverse conditions such as areas of steep terrain and precipitous drainages. ❖ Five roadway crossings and one railroad crossing create barriers to trail continuity, and public safety hazards for people attempting to cross these roads and railways. Solutions would require engineered pedestrian/bicycle crossing solutions (i.e. new intersections and /or grade-separated crossings requiring bridges and ADA accessible ramps to connect bridges to trail). ❖ Where new trail construction would be required because the canal maintenance road does not exist (e.g. gaps in the canal where water has been siphoned into underground pipes) there is a potential to create disturbances that would have significant impacts on biotic resources (wildlife habitat) and prehistoric relics and historic places. |
| Maintenance | <ul style="list-style-type: none"> ❖ Intermittent points of failure throughout the length of the canal are requiring ongoing maintenance. ❖ The nature of the maintenance work on the canal requires the SCVWD crews to utilize large vehicles that take up the entire width of the maintenance canal road. As long as the canal remains, temporary trail closures would be required when staff are performing maintenance work on the canal. |
| Potential Hazards/ Safety Concerns | <ul style="list-style-type: none"> ❖ Geologic constraints of landsliding could result in failures that would create public safety hazards for people using and living near the trail, and have catastrophic effects on adjacent properties. ❖ The drop off on both sides of the maintenance road is steep for most of its length creating a potential safety hazard for trail users. ❖ Some current uses / activities adjacent to the canal create potential safety hazard for trail users including archery, and PG&E transmission lines. ❖ The raised elevation of the canal relative to the adjacent properties creates a sense of intrusion and raises concerns by homeowners about loss of privacy and potential increase in burglary to adjoining homes. |

The Canal as Part of the Stormwater Infrastructure System

While the Coyote Alamos Canal was not intended to collect local drainage, and has not been operated by the SCVWD for this purpose, its primary function at present is the collection and dispersal of incidental sheet run off from the adjoining hills during storm events. In addition, between Snell Road and Cahalan Road, and between Cahalan Road and Miracle Mountain Road, there is a lack of capacity in the City's drainage system, which has resulted in the integration and dependence of the City's storm water system with the canal in these locations. Resolution of the stormwater drainage infrastructure will need to be addressed jointly by the City of San José and the SCVWD.

Improvements to the existing drainage system will need to take into consideration the instability of the soils in the Santa Teresa Hills. Construction of retaining walls, earthen berms and other erosion control measures within the canal right of way will likely be required to redirect water and avoid future erosion, landsliding and flooding.

Recommendations

In spite of these constraints, there are a number of studies and projects that the City of San José Department of Parks, Recreation and Neighborhood Services in partnership with other Departments and agencies, could pursue in the short and long-term that would enhance recreation opportunities in the area. These actions are described below.

Trail Development in the Near Term

Actions that could be completed prior to performing modifications to the canal infrastructure that could lead to the development of a future trail system within the Santa Teresa Trail Corridor include:

1. Conducting further research on an alignment between Santa Teresa County Park and the Coyote Creek Park Chain that includes engineering feasibility design studies for the crossings at Santa Teresa Blvd., and at the Monterey Highway/Union Pacific Railroad.
2. Pursuing opportunities to acquire and manage the east side of the Santa Teresa Hills as open space as set forth in the *Santa Clara County 2020 Plan* and the *Santa Clara County Open Space Authority's Five Year Acquisition Plan*.
3. Completing the pedestrian and bicycle network and developing a signed pedestrian and bicycle network and safety program for the adopted City bicycle network that is proposed to connect Almaden Lake City Park and Santa Teresa County Park (Not supported by the Community - Refer to *Section I - Table 1 - Community Goals for Further Study of the Santa Teresa Trail Corridor*).

Long-term Course of Action to Correct Current Canal Conditions

Before the City of San José's Department of Parks, Recreation and Neighborhood Services proceeds any further with the development of a recreational trail along the Coyote Alamos Canal, future engineering studies should be prepared to provide solutions to current canal conditions. These studies will be dependent on development of new partnerships between agencies and organizations who have the expertise and authority to address the unique issues associated with the canal and the City's stormwater infrastructure in the Santa Teresa Corridor. The future engineering analysis/design effort should include:

1. Establishment of localized retention systems to replace the function of the existing canal
2. An assessment of the capacity of the City system to transmit the calculated runoff
3. An assessment of the maintenance requirements of the facilities planned
4. An assessment of the impact a new hillside runoff system would have on minimizing future landsliding within and below the canal right of way and potential flooding of the residences below.

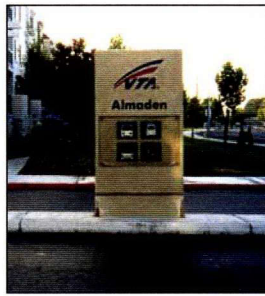
Trail Development in the Long-term

Once the assessment to the canal infrastructure described above are completed, the actions that would need to be completed to develop a public recreation trail along the canal (as proposed in Alternatives 1 and 2 and portions of Alternative 3) include:

1. Acquire land and easements (potentially from unwilling property owners).
2. Develop engineering solutions for restructuring the canal profile that would include at a minimum: a) refurbish and clean the existing by-pass collection systems to allow them to function as originally intended and b) add additional collection systems to collect incidental sheet run off from the adjoining hills during storm events. It is anticipated these solutions will include retaining walls, earthen berms and other localized retention devices.
3. Develop trail sections that are continuous between two public access staging points.
4. Mitigate potential biotic and archaeological resource impacts during construction, and provide long-term monitoring as appropriate to establish new habitats and/or protect existing sensitive resources where there is trail activity.
5. Design and implement a landscape buffer between the canal and the canal maintenance road (to mitigate perceived/actual loss of privacy/security of adjacent residences).
6. Develop maintenance and budgeting solutions that will address the trail and drainage collection system. It is anticipated that these maintenance strategies and costs would significantly exceed the costs currently being realized by the Water District. This is due to the added difficulty of cleaning inlets and drainage pipes, and trail surface maintenance, as compared to the currently simple act of removing material from the canal.

For a more detailed discussion of these recommendations, refer to *Section VI – Findings & Recommendations*.

III. Description of the Proposed Trail Route



The proposed Coyote Alamos Canal Trail would connect Almaden Lake City Park with Santa Teresa County Park and the Coyote Park Chain near Metcalf Road. It would follow the canal alignment along the eastern face of the Santa Teresa Hills and around the northern base of the Tulare Hill.

This trail would have the potential to link to:

- ❖ Several regional and neighborhood trails and parks
- ❖ Six existing staging areas
- ❖ The City's Bicycle Commuter Network
- ❖ The Valley Transportation Authority's bus/light rail transit vehicles, which have been fitted with bicycle racks to facilitate combined bike/bus commutes.

III. Description of the Proposed Trail Route

The Proposed Route

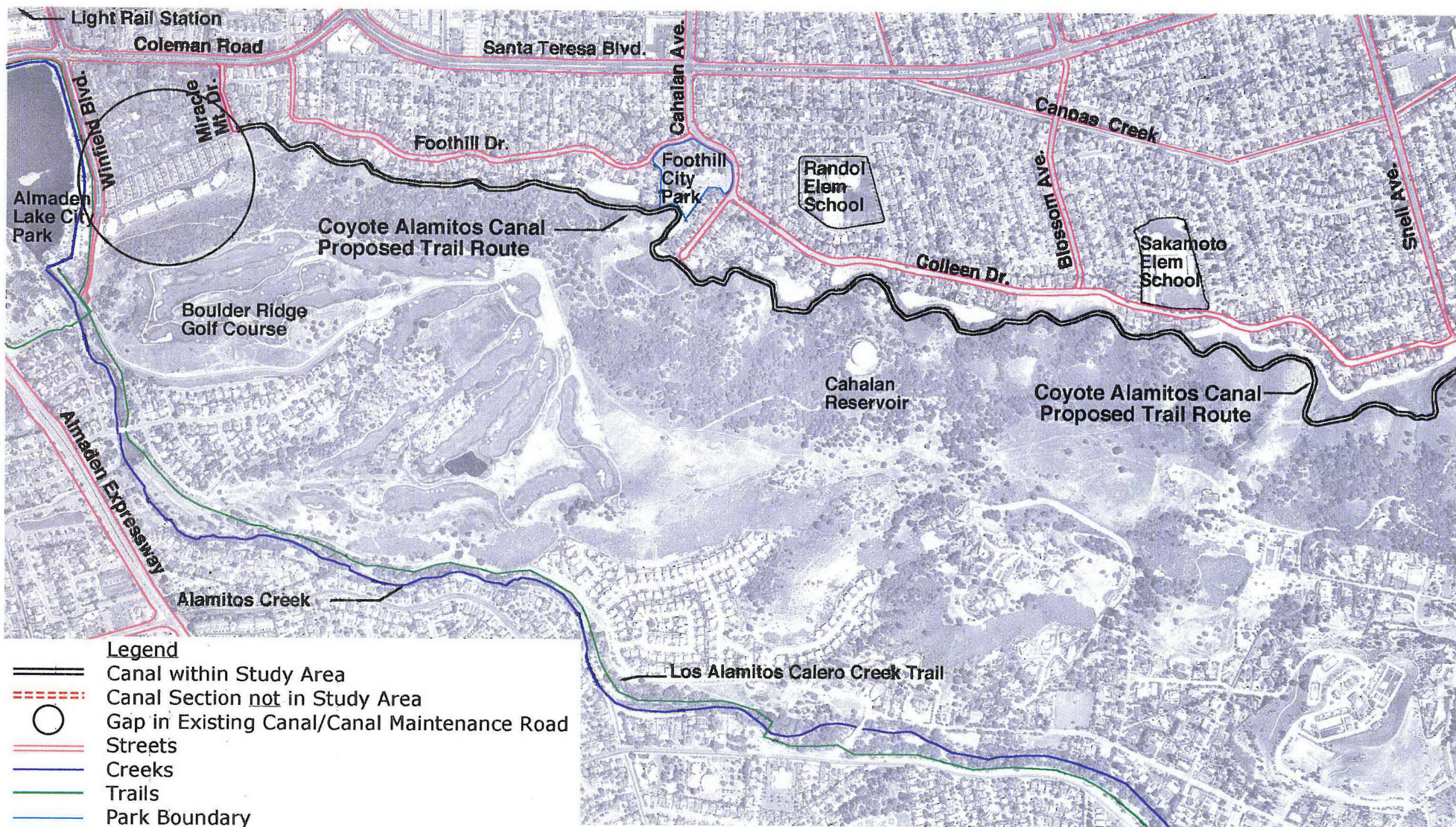
The study area is located in Santa Clara Valley approximately seven miles south of downtown San José. The canal is situated near the base of the eastern side of the Santa Teresa Hills (west of Santa Teresa Blvd.) and the northern side of Tulare Hill (east of Santa Teresa Blvd.). The geographic limits of the Project extend over a distance of approximately eleven miles. The study area excludes a three-mile section of trail that would pass through Santa Teresa County Park. Refer to *Map 2- Regional Context* to see the study area and *Map 5 – Proposed Coyote Alamos Canal Trail Route* to see a more detailed view of the trail route.

The proposed trail route (as delineated in Alternative 1 and Alternative 2) is to utilize the existing Coyote Alamos Canal maintenance road, which runs along side the canal, to connect Almaden Lake City Park with Santa Teresa County Park and the Coyote Park Chain. Almaden Lake City Park, which is located within the City of San José's boundaries, forms the northwest terminus of the canal. The Metcalf siphon forms the beginning point and southeast terminus of the water conveyance structure. It is located along Coyote Creek near Metcalf Road.

The trail (as delineated in Alternative 1 and Alternative 2) would extend for approximately six miles beginning at the Guadalupe recharge facilities in Almaden Lake City Park and would continue along the eastern face of the Santa Teresa Hills to Santa Teresa County Park. The proposed trail route would then connect to the County Park trail system through the County Park (approximately three miles). At the southeast boundary of the County Park, it would pick up the canal maintenance road and continue for approximately two miles in an easterly direction across Santa Teresa Blvd. and around the northern base of the Tulare Hill to the Monterey Highway. At this point, the trail is proposed to cross the Union Pacific Railroad and Monterey Highway and connect to the Coyote Creek Trail near Metcalf Road.

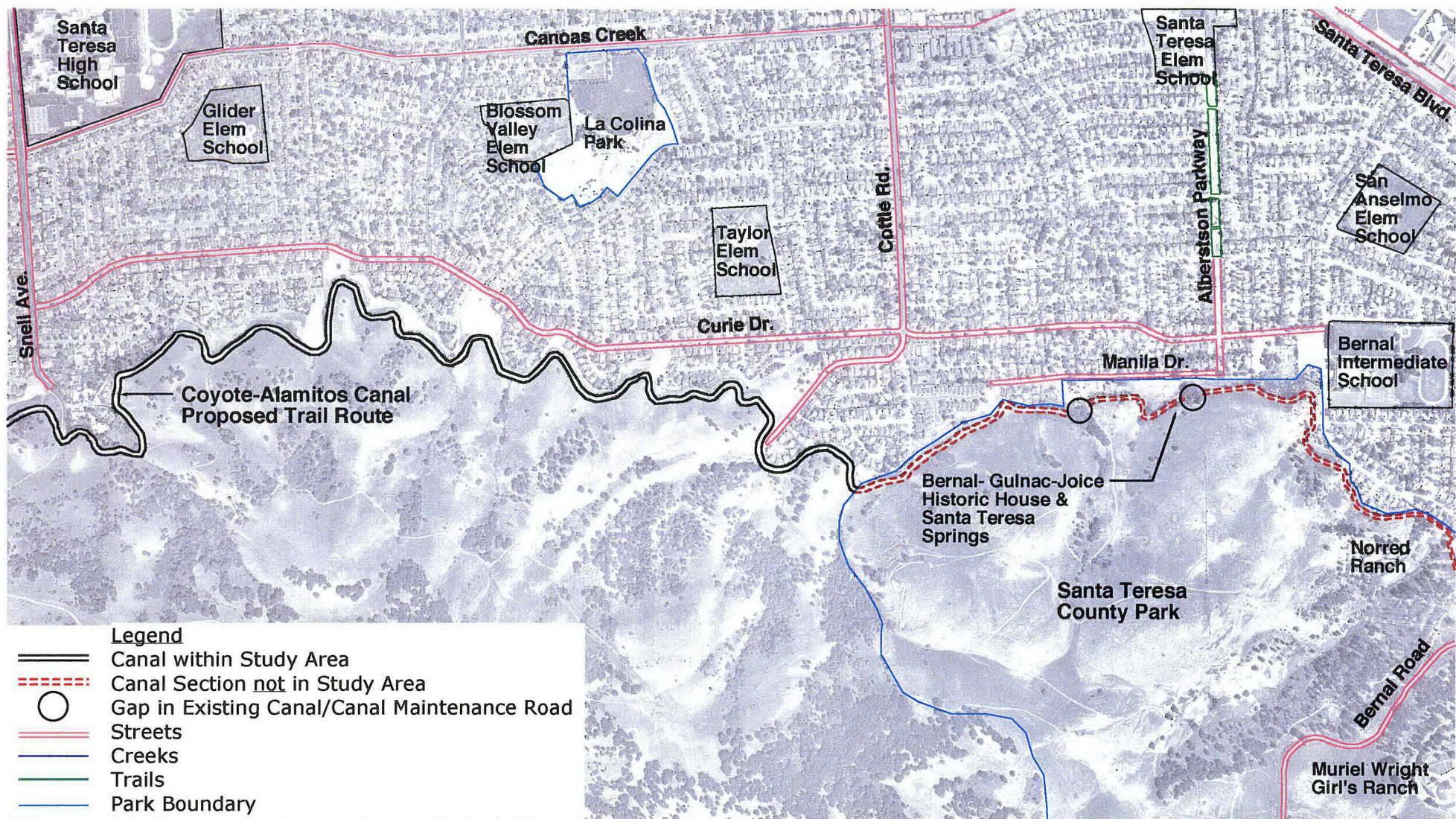
Links to Regional & Local Trails

The Coyote Alamos Canal/Santa Teresa Trail corridor provides opportunities to increase connectivity in the regional trail system by providing links to several regional and sub-regional trails against a backdrop of the pastoral Santa Teresa Hills. These regional and sub-regional trails and the potential links to them from the canal are discussed below.

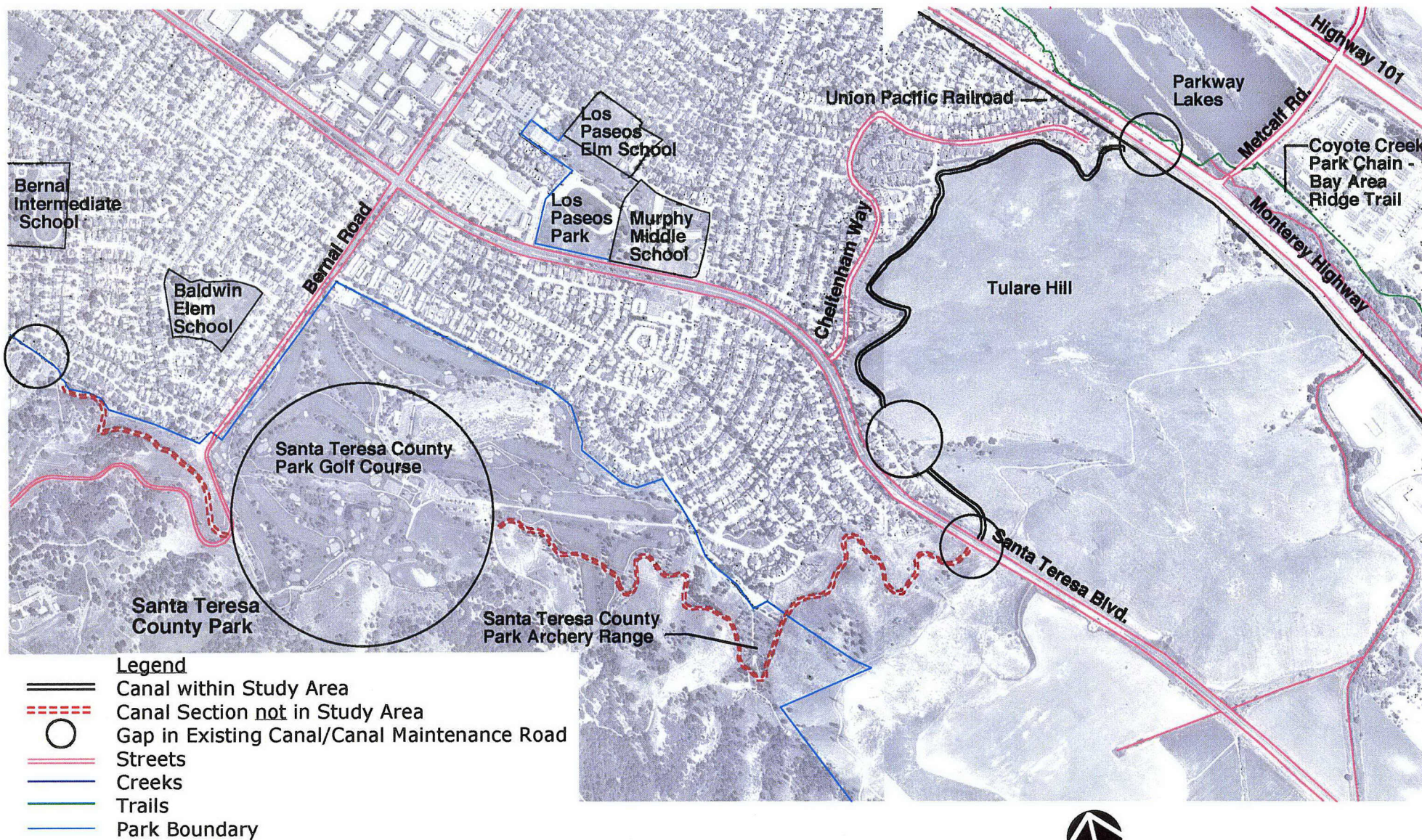


Map 5 - Proposed Coyote Alamos Canal Trail Route





Map Key
Map 2



Los Alamitos / Calero Creek Trail

The Coyote Alamitos Canal Trail is proposed to connect to the Los Alamitos / Calero Creek Trail at Almaden Lake City Park. The Canal Trail could also be linked to the Los Alamitos / Calero Creek Trail at the southern end by connecting into the Santa Teresa County Park trail system. Refer to *Map 2 - Regional Context* to see these two potential links.

The four and a half-mile Los Alamitos / Calero Creek Trail extends from Fortini Road to Almaden Lake City Park where it joins to the Guadalupe Creek Trail. It is an asphalt trail with a compacted gravel/decomposed granite shoulder designed for jogging and equestrian use. The paved surface accommodates wheelchair access, skating, skateboard riding (non-motorized), scooter riding, walking, dog walking (on-leash), and bicycle riding.

Albertson Parkway

Though there is no direct link between the Canal and the Albertson Parkway Trail, a connection could be made along the residential streets of Manila Way (one block) and Manila Street, which parallels the Santa Teresa County Park boundary. Access to the Canal Trail would be from the Bernal-Gulnac-Joice-Historic Ranch House / Santa Teresa Springs staging area in Santa Teresa County Park.

The Albertson Parkway Trail is located within the PG&E right of way. It extends from the terminus of Manila Way and Curie Street westward approximately one-half mile. It provides a direct link to Santa Teresa Elementary School and D. George Page Park from the surrounding neighborhoods. The Albertson Parkway is paved and can accommodate wheelchairs, skaters, skateboarders, scooters (non-motorized), walkers, joggers, dog walkers (on-leash), and bicyclists. Refer to *Map 2- Regional Context* to see this potential trail connection.

Coyote Creek Trail

The Coyote Alamitos Creek Trail is proposed to connect to the Coyote Creek Trail near the intersection of Metcalf Road and Monterey Highway. Refer to *Appendix C - City of San José Trail and Bicycle Maps* to see the proposed route of Coyote Creek Trail and *Map 2- Regional Context Map* to see where the Canal Trail would tie into the Coyote Creek Park Chain.

The Coyote Creek Park Chain includes a regional trail that connects a number of individual parks and reservoirs over its 24-mile length. The Coyote Creek Trail is an asphalt trail that can accommodate wheelchair access, skating, skateboard riding, scooter riding (non-motorized), walking, jogging, dog walking (on-leash), and bike riding. Equestrian use is permitted on sections of the Coyote Creek Trail. However, equestrian use is

not currently permitted along the section of the Coyote Creek Trail that would connect to the Canal Trail.

Bay Area Ridge Trail

Within the project area, the Bay Area Ridge Trail alignment, as currently accepted by the Bay Area Ridge Trail Council, the City and the County, includes a cross-valley route through the Santa Teresa Valley. This route would connect the Coyote Creek Trail and the Los Alamitos / Calero Creek Trail by passing through Santa Teresa County Park along the southeast portion of the Coyote Alamitos Canal.

The Bay Area Ridge Trail is a 400-mile regional trail system that is proposed to follow the ridges and mountains that circle the San Francisco Bay and connect the nine Bay area counties at, or just below the principal ridgelines nearest the Bay. It is intended to be a shared use trail system oriented to pedestrian activities (e.g. hiking and running), bicycling, and equestrian uses that can be accommodated on compacted earthen surfaces.

Juan Bautista de Anza National Historic Trail

Within the project area, the Juan Bautista de Anza National Historic Trail would overlay the alignment of the Bay Area Ridge Trail along the southeast portion of the Coyote Alamitos Canal. The bicycle route proposed for this regional trail would follow the bicycle route identified in Alternative 5 of this study.

The Juan Bautista de Anza National Historic Trail commemorates the route taken by Juan Bautista de Anza in 1775-76 when he led a group of colonists from what is now Horcasitas, Sonora Mexico to the mouth of the San Francisco Bay. The historic trail corridor incorporates the general area under study.

To recognize this historic journey through Santa Clara County, a series of “recreation retracement trails” are proposed. These would be shared use trails that would generally follow the journey of the Anza expedition, though the trail route in most locations would not necessarily be coincidental with the actual expedition.

Santa Teresa County Park Trail System

The Coyote Alamitos Canal Trail is not currently identified as part of the existing County Park trail system, but is identified as a potential trail route in the 1992 *Santa Teresa County Park Master Plan* for the Park. The canal runs along the northeastern edge of the Park for approximately three miles. The maintenance road is discontinuous where the canal drops into siphons to negotiate grade changes and physical barriers. These siphons occur at the southern end of the golf course, in the vicinity of Norred Ranch, and several other locations.

The *Santa Teresa County Park Master Plan* recommends development of a new multi-purpose trail along almost the entire

length of the Coyote Alamos Canal within the County Park boundaries. The canal/canal maintenance road alignment would connect the Bernal-Gulnac-Joice Historic Ranch House to the Bernal Entry Gateway, the East Meadow Picnic Area and the Park's western boundary. An additional 2,750-foot extension beyond the Park's property connecting to Santa Teresa Blvd. is also recommended. This extension would set the stage for an eventual connection to the Bay Area Ridge Trail /Juan Bautista de Anza National Historic Trail systems. A trailhead is recommended at the junction of Santa Teresa Blvd. and the Canal.

The Santa Teresa County Park trail system includes opportunities to link to the Bay Area Ridge Trail and Juan Bautista de Anza National Historic Trail, as well as the Stile Ranch Trail which leads back into the Los Alamos / Calero Creek Trail. Permitted uses include walking, jogging, dog walking (on-leash), mountain bike riding, and equestrian use. The trail surface is typically compacted native soil, which is bladed annually. Refer to *Appendix F -Santa Teresa County Park Trails Maps* to see the existing and proposed park trail systems.

Existing Parklands & Staging Areas

The goals established for the project also include enhancing the value of individual parks to the surrounding communities by extending the recreation opportunities outward along this linear corridor and providing non-vehicular access to the parks. In return, the existing parklands provide opportunities to serve the trail system by providing destination points, as well as convenient staging areas interspersed along the canal corridor. The Coyote Alamos Canal/Santa Teresa Trail corridor provides opportunities to link to several regional and neighborhood parks. Within the City and County parks located along the proposed route, there are six existing staging areas that have the potential to serve a trail located along the Coyote Alamos Canal. Descriptions of these parks and the associated amenities and potential staging areas are discussed below.

Almaden Lake City Park

Almaden Lake City Park occupies 65 acres in an area that was formerly a gravel quarry. The lake itself was progressively formed by the quarry operation that began in the 1940s. The SCVWD uses Almaden Lake to recharge the valley's ground water system. The site was opened as a City park in 1982. Park amenities include restrooms, a playground, picnic facilities, boating, and swimming.

This City Park provides opportunities to serve as a staging area for the Coyote Alamos Canal Trail, and as a connecting point to

the Los Alamitos / Calero Creek Trail. There are 330 off-street parking spaces at the park. There are 221 spaces on the west side of the park with access off Almaden Expressway, and 109 spaces in the park parking lot adjacent to Winfield Blvd. In addition to serving the needs of the City Park, the west side parking lot provides direct access to the Los Alamitos / Calero Creek Trail. This parking lot could also provide convenient access to the Coyote Alamitos Canal Trail. However, use of this parking lot for trail staging has the potential to create competition for parking for the City Park uses.

Other constraints to the Almaden Lake City Park staging area include fees for parking, and limited hours of operations that do not necessarily coincide with peak trail use. The parking lot is closed during early morning hours when trail use is frequently high. The resultant overflow parking ends up on residential streets, which could be an irritant to local neighbors.

Foothill City Park

Foothill City Park is located at Cahalan Avenue and Foothill Drive. The park is minimally developed with a small footpath and park identity sign. The park shares a common border with the canal but is separated by a fence. This park could provide opportunities to access the Canal from local neighborhoods on the east side of Santa Teresa Hills. However, there are several constraints to accessing the Canal from this park. These constraints include steep trail gradients, existing pathway surfaces and widths that are not compliant with the Americans with Disabilities Act, and use limitations - no bikes are allowed on the existing Foothills Park pathways. In addition, there is no off-street parking available for staging at this park.

Century Oaks Park

Century Oaks Park is an undeveloped San José City Park. The land for the park was donated to the City of San José by the developer of the homes below it in exchange for being allowed to build houses on smaller than standard sized lots. The parkland extends between Cottle Road and Galen Drive. There are several potential access points to the Park and the canal above from Curie Drive. There is a private horse ranch located at the end of Cottle Road that has private access across the canal right of way at Cottle Road. At Galen Drive, the park property ends. From here, the canal continues behind and above houses fronting onto Mindy Way and then goes under Snell Avenue.

Similar to Foothills City Park, there are several constraints to accessing the Canal from this park. These include the steep embankments up from the park to the Canal and no off-street parking available for staging.

Santa Teresa County Park & Bernal-Gulnac-Joice Ranch House /Santa Teresa Springs

Santa Teresa County Park, located about five miles east of Almaden Lake City Park within the Santa Teresa Hills, is a 1,500-acre park. It was first opened to the public in 1961 after the County completed the construction of the park golf course. Other facilities, including picnic areas, an archery range, 14 miles of bicycling, equestrian and hiking trails, and an equestrian staging area, were subsequently added. The Pueblo Day Use Picnic Area, located off Bernal Road near the crest of the hill, includes restrooms, parking for over 170 vehicles, an equestrian arena, and a reservable group picnic area for up to 100 people. This day use area also provides a convenient staging place for those people accessing the County Park trail system. Additionally, the Park includes historic points of interest such as the Bernal-Gulnac-Joice Historic Ranch House and Santa Teresa Springs, which were recently renovated as park features, and the former Buck Norred Ranch.

Within Santa Teresa County Park, the Coyote Alamitos Canal has the potential to connect the Bernal-Gulnac-Joice Historic Ranch House and Santa Teresa Springs, the former Buck Norred Ranch, the County Park Golf Course and the County Park Archery Range. Trail continuity would require design solutions for the discontinuous sections of the canal where water is piped underground, and the elimination of the hazardous conditions associated with the golf course and the archery range. Potential neighborhood access to the existing County Park trail system is possible from several points including Brockhurst Drive, the Bernal-Gulnac-Joice Ranch and Santa Teresa Springs at Manila Street, and Bayliss Drive.

The Bernal-Gulnac-Joice Historic Ranch House and Santa Teresa Springs site provides an opportunity to serve as a potential trail staging area for the Canal Trail as the site shares a portion of the canal right of way. It also includes off-street parking (10 striped spaces, including one universal access space) and restrooms. However, these parking spaces were developed primarily to serve the Park's interpretive programs. Therefore, similar to Almaden Lake City Park, trail staging has the potential to create competition for the limited number of parking spaces. Additionally, the hours that off-street parking is available are limited (8am – dusk).

Coyote Creek Park Chain

The 24-mile Coyote Creek Park Chain contains a series of parks and trail staging areas that are linked by the regional Coyote Creek Trail. While many of the parks and reservoirs within the park chain are located within the City of San José, some are located outside the City within the unincorporated area of Santa Clara County. Within the project area, there are three park

activity/staging areas that could potentially serve the Canal Trail. These are described below:

Monterey Highway Staging Area. A (no fee) parking lot is located adjacent to the Monterey Highway 1,530 feet north of Metcalf Road. This parking lot was specifically designed as a staging area for the Coyote Creek Trail. Auto capacity at this unimproved (no paving/stripping) lot is approximately 20 vehicles. County park staff can control vehicular ingress/egress by closing the gates when the staging area is closed to the public (dusk to 8 am). The primary constraint to this trail staging area is the limited hours of access that may not coincide with trail user needs. In addition to this designated trail staging area, there are two park activity areas that offer potential staging opportunities within the project area.

Parkway Lakes. These lakes, which form a part of the Santa Clara County Park system, offer off-street staging along Monterey Highway for water skiing, and off-street staging for fishing from Metcalf Road. Use of the Monterey Highway parking lot is limited to members of the water skiing club. A locked gate precludes unauthorized access much of the time. This parking area is small (10 vehicles), unimproved and poorly configured. Given that the spaces available must accommodate both cars and boat trailers, it is unlikely that parking would be made available to other users.

Metcalf City Park. This is a neighborhood park located adjacent to the Coyote Creek Trail approximately three-quarters of a mile north of Metcalf Road. Metcalf City Park has restrooms, picnicking, volleyball and basketball courts, and a playground. Parking is limited to the adjacent street. Competition for parking spaces could be very high on weekends during periods of peak park use.

Links to Transit & Bicycle Commuter Networks

Several transit related goals were established for the project including improving the non-vehicular circulation system by providing non-vehicular access to parks, and creating safe, traffic-free recreation opportunities. Opportunities to link to the countywide transit system and the City bicycle network are described below.

Transit Links - Light Rail & Bus Service

The Santa Clara Valley Transportation Authority (VTA) provides bus and light rail service in the project area. The Almaden Light Rail/Bus Transit Station is located near Winfield Blvd. and Coleman Road approximately one-half mile from the proposed Canal Trail. There is an existing segment of the Los

Alamitos / Calero Creek Trail that could provide a connection between the transit station and the Coyote Alamitos Canal Trail. This trail begins at the entry into the Almaden Light Rail/Bus Transit Station and runs along the north and east perimeters of Almaden Lake City Park. Additional light rail stops are proposed along Santa Teresa Blvd. Refer to *Map 6 - Bike & Transit Routes* to see how the canal route could link to existing rail, bus and bike systems in the City.

Light Rail. The Almaden Light Rail Station provides access to the 21-mile light rail line, which runs from south San Jose to the City of Santa Clara. The primary function of the system is accommodate home - work commute patterns by connecting residential neighborhoods in South San Jose with work sites in central and north Santa Clara County.

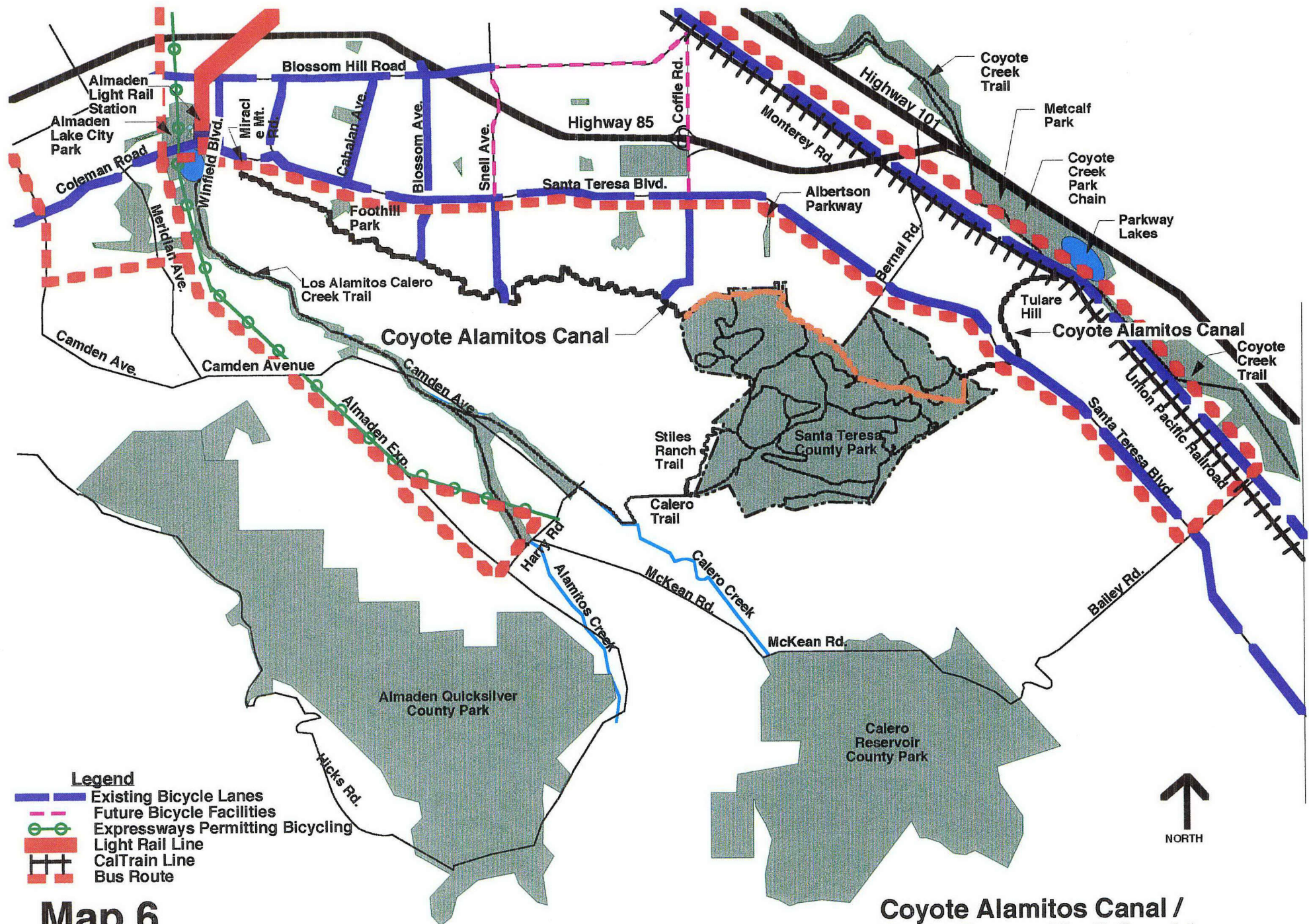
The light rail line, known as the “Almaden Shuttle”, consists of a single car that connects with the main light rail line that travels between Santa Teresa Station in South San Jose, downtown and Bay Point Station in North San Jose.

Bicycles are allowed on all the light rail trains. Four bike storage hooks are provided in the interior of each VTA light rail car to facilitate combined bike/bus commutes.

Bus Routes. The bus routes that leave from the Almaden Station are Routes 13, 64, 65, and 67. All of these routes provide opportunities to use transit to connect to the Coyote Alamitos Canal Trail. Route 13 stops at the Ohlone / Chynoweth Station and then travels along the north-south Almaden Expressway corridor to McKean Road. Route 64 is the main line traveling from the Almaden Station to downtown. It then continues east to Alum Rock area. Route 65 stops at Redmond, Lee and Camden Avenues and terminates at San José State University. Bus Route 67 runs along Santa Teresa Blvd. and Coleman Road and connects to the Almaden Light Rail/Bus Transit Station. The closest access points from the bus route would be from Coleman Road at Winfield Blvd. The closest access point from Santa Teresa Blvd. would be where the canal is piped under the street at the crest of Santa Teresa Blvd. Currently there is not a bus stop in this location.

The super express bus 501 operates during limited commute hours between Palo Alto and the IBM facility on Bailey Avenue. The 501 line runs along Santa Teresa Blvd. and Bailey Avenue serving the Santa Teresa Light Rail Station and the Blossom Hill CalTrain Station.

All VTA buses are fitted with bicycle racks accommodating two bikes per bus to facilitate bus-bike commute opportunities.



Transit Links - CalTrain

Cal Train provides commuter rail service on the Union Pacific Railroad (UPRR) tracks that parallel Monterey Highway and cross the canal alignment near its eastern terminus. The nearest CalTrain station is located approximately four miles from the canal crossing at the Blossom Hill Station. CalTrain currently provides four trains each way per day during commute periods.

Bicycle Commuter Networks

There are no designated Class II or Class III bikeways providing a direct link between the City's Bicycle Commuter Network and the Coyote Alamos Canal. The nearest Class II bike lanes have been delineated along Santa Teresa Blvd. between Cottle Road and Coleman Road. Class II bike lanes have also been installed along Coleman Road between Santa Teresa Blvd. and Winfield Blvd. These bike lanes would allow for access to Almaden Lake City Park from the neighborhoods that extend along the eastern toe of the Santa Teresa Hills. While bicyclists are permitted on all city streets, the City's Bicycle Commuter Network does not provide a designated connection to the Coyote Creek Park Chain from Santa Teresa Blvd. Refer to *Appendix C - City of San José Trails & Bicycle Plans*.

IV. Feasibility Analysis of Alternative I



Summary Analysis

Benefits

- ❖ A trail along the canal would have the potential to link to
 - Existing residential neighborhoods
 - Several regional and neighborhood trails and parks that have parking lots that could provide staging
 - The City's Bicycle Commuter Network
 - The Valley Transportation Authority's bus/light rail transit vehicles
 - Several local schools.
- ❖ The Canal's raised elevation offers panoramic views of the open terrain of the immediately adjacent hills, the valley below, and the mountain ranges in the distance.

Constraints

- ❖ There are gaps in the trail route where underground pipes were used in lieu of an open channel, including: five roadway crossings, a connection between Almaden Lake City Park and Miracle Mountain Dr., at Santa Teresa Springs, through Santa Teresa Golf Course and in a drainage east of Santa Teresa Blvd.
- ❖ The canal functions as part of the City's stormwater infrastructure system.
- ❖ Throughout the length of the canal are failures of the gunite canal edge, silt build up, vegetation encroachments within the canal, and demonstrations of the instability of the adjacent side slopes, with slides that have intruded into the canal.
- ❖ Private hillside property owners hold the majority of the canal owned in fee. This ownership is made up of 34 properties held by 22 parties. The hillside lands are in the County's jurisdiction. The SCVWD has easements for water conveyance and maintenance over the private lands that do not allow for recreational use of the canal maintenance road.
- ❖ Adjacent residents concerns include perceived loss of privacy and anticipated increase in burglary to adjoining homes.
- ❖ Where new trail construction would be required because the canal maintenance road does not exist (e.g. gaps where water has been siphoned underground), new construction has the potential to impact biotic resources, and prehistoric and historic resources.

IV Feasibility Analysis of Alternative I

Consistency with City & County Trail Plans & Agency Requirements

The Vision

The City's vision for its future includes the creation of a citywide network of interconnecting trails that will encourage alternative transportation modes and provide access to parks and open spaces within the City limits, as well as connections to neighboring cities.

This citywide network of public access trails, bikeways and transit is addressed in several planning documents that are used to guide the development of the City San José. All or portions of the Coyote Alamitos Canal / Santa Teresa Trail Corridor are identified as part of this alternative transportation network in many of these planning documents. *Appendix H - Consistency with Plans Guiding Trail Development in the City of San José* provides a summary of each of these documents - their vision and findings relative to the proposed canal trail's consistency with those visions.

The Canal - History of Use & Ownership

To effectively determine the feasibility of developing and maintaining a trail within the Coyote Alamitos Canal, this analysis has taken into account its historical and current function. This discussion also identifies factors that would contribute to or inhibit development of a public recreation trail.

Canal Location

The Coyote-Alamitos canal is an extension of the Coyote Canal. The total length of the Coyote Alamitos Canal is 11 miles. The canal meanders near the toe of the Santa Teresa foothills. The southeast terminus is located near Metcalf Road. The northwest terminus is located at Lake Almaden. The canal is located between the hills on the south and west and homes on the north and east, although when the canal was constructed there were no adjacent residential communities. At the time the canal was constructed, orchards, farmland and/or open fields were all that existed immediately downhill of the canal.

Canal Purpose

The Coyote Alamitos Canal was originally constructed for the purpose of conveying water from Anderson Reservoir to Lake Almaden and the Guadalupe River drainage basin for agricultural and groundwater recharge uses. The water supplied by the canal was used to help offset the high water demands and subsequent drops in groundwater levels on the west side of Santa Clara Valley. The canal was developed to serve as a recharge facility from spring through autumn. It was not intended to be used during the winter months as a runoff collector because during that time the local runoff from the Guadalupe and Alamitos Creek watersheds was sufficient to supply all the recharge areas along those creeks. The canal was operated for its original purpose between May 1954 and the fall of 1976.

History of the Canal/Canal Maintenance Road

1953. The canal was constructed as a earth channel in 1953. The original system included twenty-five localized drainage systems, which were constructed to convey local runoff through the canal and into drainage systems below the canal.

1974. In 1974, the Cross Valley Pipeline was built to convey water to the Guadalupe watershed, eliminating the need for the canal for its intended use.

1975-76. During 1975-76, the only water that was diverted from the canal was for irrigating the adjacent Santa Teresa County Park Golf Course. After 1976, the County Park was no longer dependent upon this water because they started using water from the South Bay Aqueduct for irrigation.

In the winter of 1975-76, as homes were built in the area, additional drainage systems were installed to capture winter flows before they entered the canal and to transmit those flows into local storm drains. In addition, the District built spillways at several locations along the canal to transmit excessive water in the channel into local drainage systems. These systems were installed to minimize the amount of runoff entering and/or being transmitted by the canal.

According to discussions with District staff, when residential developments below the canal were proposed along the base of the Santa Teresa Hills, the District requested that the City of San José 1) not permit the developers to consider the canal as a local drainage facility, and 2) require developers to build additional drainage facilities to collect runoff from above the canal and convey it into local storm drains in the developed areas. Facilities to accomplish this second goal were constructed with the housing developments. Managing the flow of water was important because structural foundations of the homes could be negatively impacted by saturated soils.

1978-79. Beginning with the 1978-79 water year, no water has been conveyed through the canal.

Current Function of Canal - Incidental Collection of Stormwater Originating from the Hillsides above Canal

Although the canal continues to be maintained by the SCVWD, there is no intended purpose for the canal at this time. The canal does, by default, function as a buffer between the hills and the residential communities, intercepting both storm runoff and slide materials.

The fact that some of the sheet flow is intercepted is of some benefit to the adjacent property owners downhill of the canal. However, in the area southeast of Snell Avenue, the residential streets located below the canal routinely flood in the winter in spite of the canal's ability to collect some of the storm water originating from the hillsides above. Other areas that experience flooding include the areas associated with the North Creek Drive, the County golf course, Bernal Road, and Oberlin Way (where landslides have historically filled the canal). The water that sheets off the hill, and the erosion products the water carries, collect in the canal and are discharged from the canal into local City storm drains through existing wasteways.

Design Characteristics of the Canal /Canal Maintenance Road

The typical cross section of the canal includes 50 feet to 100 feet of Santa Clara Valley Water District (SCVWD) right of way, providing space for a 6.5-foot deep, 12-foot wide gunite lined canal (Refer to: *Figure 1 - Coyote Alamos Canal Typical Section*) and a 10-foot to 12 feet wide compacted gravel maintenance road. The maintenance road is located on the downhill, (east or north), side of the canal as it wraps around the Santa Teresa Hills and Tulare Hill. The width of the maintenance road narrows to 7'-6" in some areas along the west side of Tulare Hill.

The canal is immediately adjacent to one side of the maintenance road and on the other side there is an embankment created by the construction of the maintenance road. The drop off on both sides of the maintenance road is rather steep for most of its length. In the locations where there is additional right of way, it is steeply sloped and does not appear suitable for additional development. In areas where the water was conveyed by underground pipes, instead of by open canal, there is no maintenance road.

The canal was originally constructed as an earth channel with seven inverted siphons under local roadways. In 1957, the canal was gunite-lined in order to reduce the losses of water from

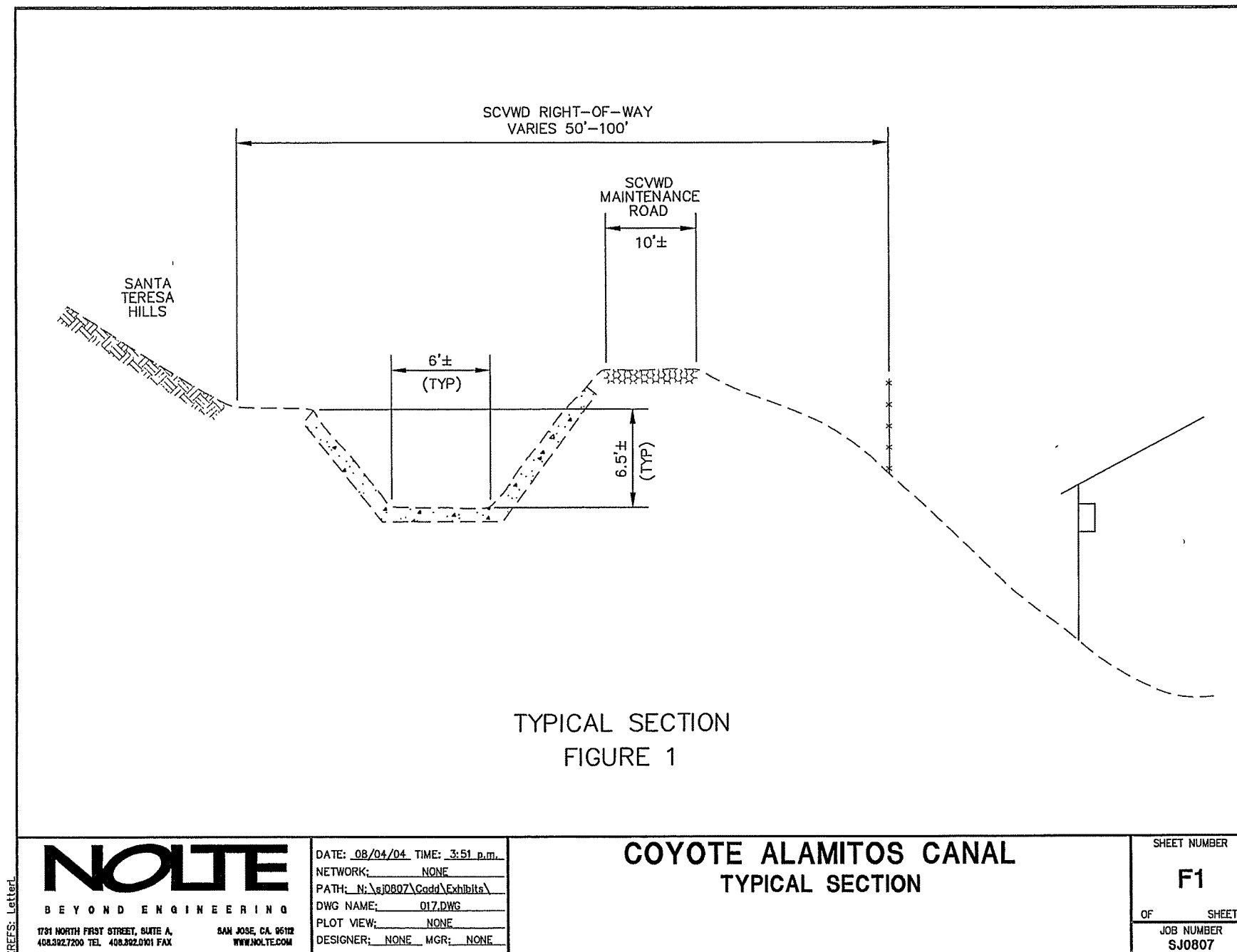


Figure 1- Coyote Alamitos Canal Typical Section

Coyote Alamitos Canal / Santa Teresa Corridor Trail
Feasibility Study

leakages and to increase the capacity of the channel itself to 100 cfs (even though the siphon capacity remained at 50' cfs). Prior to the application of gunite on the canal bottom and sides, seepage caused damage to neighboring agricultural lands, and instability to the canal and road embankment. Refer to *Appendix A - Santa Clara Valley Water District's Proposed Abandonment Study Maps & Cross Section*, which also shows the existing configuration of the canal.

Each siphon had a design capacity of 50 cubic feet of flow per second (cfs). Enough right of way was obtained at each siphon location such that parallel conduits could be installed at a later date to double the capacity to 100 cfs. However, parallel siphons were never installed.

In several locations, there is no open canal and siphon stations pumped the water into underground pipes. The siphons are used to direct water under roads and land areas where it proved more economical to convey water underground through pipes. They typically occur where there are adverse conditions such as areas of steep terrain and precipitous drainages. These difficult geographic areas often include environmentally sensitive habitats associated with riparian woodlands, seasonal fresh water wetlands, and serpentine rock outcroppings.

Underground pipes were used in lieu of an open channel to convey water at the following locations (traveling from north to south):

- ❖ The connection between Almaden Lake City Park and Miracle Mountain Dr.
- ❖ An area near Santa Teresa Springs
- ❖ A portion of the Santa Teresa Golf Course
- ❖ The drainage east of Santa Teresa Blvd.

Siphons were also required to pipe water under streets and the railroad tracks. These situations occur at (traveling from north to south):

- ❖ Winfield Blvd.
- ❖ Miracle Mountain Drive
- ❖ Bernal Road
- ❖ Santa Teresa Blvd.
- ❖ Union Pacific Railroad
- ❖ Monterey Highway

Present Condition of Canal /Canal Maintenance Road

In January 1976, the SCVWD conducted a study of the canal and reported their findings, *The Coyote Alamos Canal Landslide Investigations*. This report identified several problems with the canal:

1. Many landslides exist along the canal reflecting the overall instability of the south Santa Teresa Foothills

2. Portions of the old landslides have been activated by grading and other urban development activities
3. Creep* is present along the entire alignment
4. The potential for land sliding increases in areas where grading has been done
5. The greatest potential for damage due to landslides would be during a very strong earthquake and when the soil is saturated.

Because the canal is no longer used for its original purpose, and is expensive to maintain, it has not been kept ready for water transmission and the problems associated with the canal have intensified. Dispersed throughout the length of the canal are failures of the gunite canal edge, silt build up within the canal, encroachments of vegetation into the canal, and instability of the adjacent side slopes.

Maintenance Responsibilities & Practices for the Canal
SCVWD. SCVWD has continued to maintain the canal since water conveyance was halted in the 1970's. Even though the SCVWD never intended to use the canal to collect local drainage, and has never operated it for this purpose, they monitor the canal so the canal infrastructure and incidental flows do not adversely affect adjacent properties.

Because the Santa Teresa foothills exhibit numerous active slide areas along the canal route, removal of slide materials is a major portion of the Water District's on-going maintenance of the canal. This maintenance allows the canal to continue to function in its default role as a buffer for the residential communities. Maintenance of the canal by the SCVWD has consisted of the following:

- ❖ Cleaning the spillways
- ❖ Clearing the inlets of debris
- ❖ Preserving the canal lining to prevent seepage
- ❖ Clearing overgrowth and debris from the maintenance road
- ❖ Repairing fences to inhibit unauthorized access to the property.

This maintenance program requires access by large vehicles that take up the entire width of the maintenance canal road.

Therefore, temporary closures would need to be considered as a condition of the proposed trail, as long as the canal remains.

City of San José. The City is responsible for maintaining local storm drains facilities constructed as part of the residential community projects.

* Creep is an erosive process in which soil is eroded (usually by water) and displaced slightly downhill.

Maintenance Budget

The SCVWD has established a nominal annual budget of \$50,000 to provide on-going maintenance. The District's records indicate that actual maintenance costs have ranged between \$15,000 and \$60,000 per year over recent years. In the 5-year period from 1999 to 2004, a total of 550 CY (cubic yards) of debris was removed from the canal. Since maintenance is based on reaction to specific events or changed conditions, rather than a defined maintenance plan, this cost varies year to year. In addition, efforts have focused almost exclusively on keeping the canal clean and the maintenance road serviceable. As a result, some of the drainage facilities mentioned earlier have been rendered ineffective due to blocked inlets and some have even been removed or abandoned.

Police Patrol of the Canal & the Surrounding Area

The City of San José Police Department has jurisdiction over the residential neighborhoods that back up to the canal. However, because the majority of the canal is located on private lands, there is currently minimal police patrol that occurs along the canal. City police do patrol the nearby city streets and respond to calls from residents in the subdivisions located within City boundaries. The County Sheriff's Office serves the unincorporated hillside areas above the canal. Within Santa Teresa County Park, Park Rangers serve as peace officers and are certified as First Responders Medical Providers. They provide the initial contact with the majority of enforcement issues and assist most victims of accidents that occur within the County Park boundaries. County Park Rangers can also request back up from the County Sheriff's Department when a situation could pose health or safety issues to a park ranger or the public. From mid-April to October 1, park use is highest, the County Sheriff's Office assigns deputies to the County Park system to supplement the County rangers' staff. During this period, deputies can be assigned to specific County parks, though deputies are not generally assigned to Santa Teresa County Park.

Current Authorized Use – Ranchland Access

Several of the ranchland properties that are located in the hills above the canal have primary and/or secondary entry points onto their property from the east side of the Santa Teresa Hills. This means that they must cross the canal to enter their properties. This access has been authorized either because they own a portion of the canal right of way in fee, or because they have obtained an easement that allows them to cross the canal right of way. This cross traffic, as well as the security of the ranchlands, would need to be addressed to accommodate a trail along the canal maintenance road.

Current Unauthorized Use - Public Recreation

The maintenance road that parallels the canal is constructed of compacted earth overlaid with gravel and is virtually level. As such, it has the appearance of a trail. It is not uncommon to see people walking, jogging, bicycling, and horseback riding on the canal maintenance road. Some of this activity is by the general public who come onto the canal from the neighboring streets and buffer lands. The remainder is private use by adjacent residents who have constructed gates, steps and ramps up to the canal from their property. Public recreational use, however, is considered trespassing by the SCVWD and private landowners that have gated and signed sections of the road to discourage public access.

Land Ownership, Easements & Zoning & Impacts on Trail Feasibility

Land Ownership - Limitations on Trail Development

- ❖ Between Almaden Lake City Park and Santa Teresa County Park, the SCVWD only owns about nine percent of the canal right of way in fee and has easements on the rest.
- ❖ On Tulare Hill, the SCVWD owns 45% of the right of way along canal.
- ❖ Santa Clara County Park and the portion of the Coyote Creek Park Chain that would connect to the Coyote Alamos Canal near Metcalf Road are under County jurisdiction.
- ❖ The canal traverses 77 parcels. Forty-eight of the properties are held in private ownership (including Tract 8603, where the easement runs through private streets and common areas to 84 parcels)
- ❖ Five of these private parcels are contained wholly within the canal right of way
- ❖ Private hillside property owners hold the majority of the canal owned in fee. All of the hillside lands are in the County's jurisdiction.
- ❖ Where the canal traverses private lands, the canal is located in an easement provided to SCVWD.
- ❖ SCVWD's easements are limited to... "*constructing, installing, repairing, reconstructing, maintaining and operating a canal and pipeline for the transmission of water*". They don't include recreational use.
- ❖ Existing CC&R's restrict grading for the purposes of either landscaping or building in the area between the canal and the residences to minimize chances of creating unstable soil conditions in the proximity of the canal. These restrictions could complicate future trail development.

Land Use - Incentives for Trail Development. Land use can play a significant role in determining the feasibility of a trail route. Typically, where a trail alignment is proposed to cross private lands, development of the trail is contingent on a change in land use occurring on the designated property. At such time, a trail may be considered as a public benefit to be secured in exchange for allowing a different, generally more intense, use of that land and the City infrastructure. For instance, a change in land use from agriculture to industry might reduce the amount of open land and biotic habitat, while increasing demands on traffic,

water, sewerage and electricity. One of the trade-offs might be to condition that development to provide a trail that could serve the public recreation and alternative transportation systems, thus benefiting the quality of life within that community.

Land Ownership and City Jurisdiction. In the case of the Coyote Alamitos Canal, only the contiguous properties below the canal are within the City's jurisdiction. And those 22 properties (including Tract 8603, where the easement runs through private streets and common areas to 84 parcels) that own a portion of the canal right of way have been built out for residential use. In addition, there are 5 private parcels that are contained wholly within the canal right of way. Thus, a change and intensification of the land use is not anticipated within, and / or below the canal right of way. Therefore, trail development would require purchase of easements from the private parties to secure the canal maintenance road right of way for public trail purposes.

TABLE 4
LENGTH & OWNERSHIP OF PROPOSED CANAL ALIGNMENT
(ALTERNATIVES 1 & 2)

| Ownership | Miles* |
|---|-------------------|
| Total length of proposed trail in private ownership | 6 miles |
| Total length of proposed trail route in SCVWD ownership | 1.7 miles |
| Total length of proposed trail route in County ownership | 3 miles |
| Total length of proposed trail route in City ownership limited to sections of trail that cross city streets | .1 miles |
| Total Width of Railroad property | 80 feet |
| Total length of studied trail route | 10.8 miles |

Mileage is approximate - calculations based on map data not field survey

- Types of ownership are not contiguous

TABLE 5
NUMBER OF PRIVATE PARCELS ALONG THE CANAL

| Relationship to Canal | Number of Parcels |
|---|--|
| Private Landowners who own portions of the canal that have granted maintenance easements to SCVWD | 36 landowners (48 parcels including 1 Homeowners Assoc. with 84 parcels in common) |
| Private residents that share a common boundary canal (no ownership rights for the canal) | 171 |
| Private residents that share a common boundary with "buffer lands"*** immediately adjacent to the canal (no ownership rights for the canal) | 122 parcels (including 1 parcel with 13 townhouses) |

*** Refer to Public Open Space Buffer in this section for a discussion of this land use type

Hillside Land Use. There are four primary uses of the hillsides – 1) agriculture, 2) public open space/recreation (Santa Teresa County Park), 3) private recreation (Rocky Ridge Golf Course) and 4) private open space. Private hillside property owners hold the majority of the canal owned in fee. All of the hillside lands are in the County's jurisdiction. There is an existing trail system within the public open space. There is also the potential for the agricultural lands to incur a change in land use as the area is zoned residential (1-8 units/acre). This change in use could

trigger opportunities for trail development, but this change could also result in a significant change in the open space character of the hillsides. Most of the land in the Santa Teresa Hills and Tulare Hill, including the canal right of way, is targeted for open space resource protection in both the County's *2020 Open Space Plan* and the *Santa Clara County Open Space Authority's Five Year Plan*. However, all of the land outside the Santa Clara County Park boundaries is in private ownership, and all of the hillside area is in the County's jurisdiction. Therefore, the City is not in the position to consider the purchase of these ranch lands. Acquisition of these lands (and subsequent opportunities for public access) would be dependent on windows of opportunity for land trusts /open space organizations to acquire these lands in fee or easement as landowners are seeking to sell, donate or change the existing land uses. Refer to *Appendix G - Acquisition Plans & Priorities for the Santa Teresa Hills* to see the proposed acquisition areas.

Fee Owners Concerns. Many of the residents who live adjacent to the canal, and/or who hold a portion of the canal in fee, have expressed opposition to a public trail that would follow the canal alignment. Opposition in the form of e-mails, phone calls and letters from homeowners to the City has focused on the land owners' and adjacent residents' concerns regarding security, liability and trespassing onto their private homes/ranches. Therefore, in all likelihood, if development of the canal trail were pursued, the City would have to use eminent domain to acquire the necessary properties and conduct extensive public outreach to residents who back up to the canal, but do not own any portion of the canal in fee.

Easements Restrictions. Additionally, there are limitations on use of land and easements that would need to be resolved. The SCVWD has easements for water conveyance and maintenance that do not include the recreational use of the maintenance road as a trail. Currently SCVWD's easements are limited to..."constructing, installing, repairing, reconstructing, maintaining and operating a canal and pipeline for the transmission of water". These easements would need to be renegotiated with the SCVWD and each of the owners who hold the underlying property in fee to accommodate recreational use.

Local Jurisdictions & General Plan Designation

The entire canal is located inside the City of San José limits with the upslope edge of the canal marking the City/Santa Clara County boundary, as well as the City Urban Service Area boundary. Refer to *Appendix D -Land Ownership* and *Appendix E -City of San José Land Use & Zoning Maps* to view the land ownership patterns along the canal.

The County's General Plan designates the private land south of the canal (known as the Santa Teresa Hills) as "Hillside", with lot sizes ranging from 20 to 160 acres (minimum) depending on slope. The San José General Plan Land Use / Transportation Diagram designates most of the land south of the canal as "Non-urban Hillside" with the same density as the County allows between Almaden City Park and Santa Teresa County Park. North of the canal the land use ranges from very low-density residential (5 dwelling units per acre) to medium-high density residential (12-25 dwelling units per acre). Running along the perimeter of Tulare Hill, the canal lands are designated as Urban Hillside. Refer to *Table 6 - City of San José Land Use Designations & Zoning Districts* below for a more detailed summary of the project area land use designations and zoning districts.

Table 6
City of San José Land Use Designations & Zoning Districts

| Project Area | Zoning District | Canal Right of Way – Land Use Designation | Current Land Use | Adjacent Land Use Designation |
|--|--|---|---|--|
| Almaden Lake City Park | LI R-1-1 | Public Open Space | City Park | SCVWD water percolation/ recharge ponds Calero-Alamitos Creek Trail |
| Winfield Blvd. – Miracle Mountain | A (PD) OS (PD) | Medium High density | Easement through Multi-family residential –used for parking & emergency access | South of Canal – private open space – Rocky Ridge Golf Course North of canal – Medium High Density Residential |
| Miracle Mountain – Hillrose (Santa Teresa Hills) | A R-1-8 | Non-urban Hillside | Canal connects to City stormwater system at Hillrose | South of Canal – Urban Hillside – serpentine rock embankment, no active use North of canal – Medium Density Residential |
| Hillrose – Blossom Ave. (Santa Teresa Hills) | R-1-8 | Very Low–Medium Low Density Residential | Canal - collection & dispersal of incidental sheet run off from the adjoining hills during storm events | South of Canal – Urban Hillside – cattle ranching North of canal – Medium Density Residential - Single family residential |
| Blossom Ave. – Santa Teresa County Park (Santa Teresa Hills) | A (Stanford Dr–Blossom Ave.) A (PD) R-1-8 (PD) R-1-2 (PD) R-1-2 (adj.) R-1-5 (adj.) R-1-8 (adj.) | Public Open Space | Canal - collection & dispersal of incidental sheet run off from the adjoining hills during storm events | South of Canal – Urban Hillside – cattle ranching North of canal – Medium Density Residential - Single family residential |
| Santa Teresa County Park (Santa Teresa Hills) | A A (PD) R-1-5 (adj.) R-1-8 (adj.) | Public Open Space | Canal - collection & dispersal of incidental sheet run off from the adjoining hills during storm events – easement through golf course | Public Park – golf course, archery, trails |
| Santa Teresa County Park - Santa Teresa Blvd. (Santa Teresa Hills) | A R-1-8 (PD) (adj.) | Medium Low Density Residential | Canal - collection & dispersal of incidental sheet run off from the adjoining hills during storm events | South of Canal – Urban Hillside – cattle ranching North of canal – Medium Density Residential - Single family residential |
| Santa Teresa Blvd. - Monterey Highway (Tulare Hill) | A A (PD) R-1-8 (PD) (adj.) R-1-8 (adj.) | Arterial (115-130 ft.) Non-urban Hillside | Major Roadway / Proposed Light Rail line Canal - collection & dispersal of incidental sheet run off from the adjoining hills during storm events | Tulare Hill - South of Canal – Urban Hillside – cattle ranching North of canal – Medium Density Residential - Single family residential |
| Monterey Highway – Coyote Creek Park Chain | A A (PD) R-1-1 R-1-5 | Arterial (115-130 ft.) Non-urban Hillside | Major Roadway Railroad Tracks – Freight & Passenger lines County Park – regional trail | East of Monterey Hwy. – Public Open Space – park and trail uses |

Ownership of the Canal & Maintenance Road Right of Way

Over the entire 11-mile length of the canal, the SCVWD has fee title to approximately 30 percent of the right of way associated with the canal and maintenance road. Between Almaden Lake City Park and Santa Teresa County Park, the SCVWD only owns about nine percent of the canal right of way in fee and has easements on the rest. On Tulare Hill, the SCVWD owns 45% of the right of way along canal. The SCVWD maintains the canal right of way in its entirety.

Initially, all of the right of way for the canal and canal maintenance road was obtained in the form of easements for construction and operation of a water conveyance facility. As adjacent lands were developed, the SCVWD accepted the dedication of additional lands underlying or adjacent to the canal, so that they now own those portions of the canal outright.

In addition, where certain reaches of the canal were found to exist outside of the designated right of way, exchanges or acquisition of required lands have been made. On some lands located below the canal, where it would be unwise to permit residential development, these lands have been acquired by or dedicated to the District. Access easements serving the canal have also been acquired.

The remainder of the canal right of way between Almaden Lake City Park and Santa Teresa County Park and between Santa Teresa County Park and Santa Teresa Blvd. is in private ownership. This ownership is made up of 34 properties held by 22 parties. Refer to *Table 7 - Land Ownership Patterns* below. Also refer to *Appendix D -Land Ownership Maps* to view the ownership maps identifying the location of the private properties found along the Canal. These properties are typically signed no trespassing and sections of the Coyote Alamos Canal maintenance road and the adjacent lands are fenced and gated to discourage public access.

The canal right of way as it passes through Santa Teresa County Park, is owned in fee in part by the County, the SCVWD and several private landowners (in the vicinity of the former Norred Ranch property). In addition, the portion of the Coyote Creek Park Chain that would connect to the Coyote Alamos Canal near Metcalf Road is under County jurisdiction.

Table 7 - Land Ownership Patterns along the Canal

| Project Area / Underlying Land Use | Ownership / Easements | Limitations on Use of Land & Easements | Immediately Adjacent Land Uses |
|---|--|---|--|
| Almaden Lake City Park / Calero-Alamitos Creek Trail Public recreation | City Park | Public recreation Water recharge Flood protection | SCVWD water percolation/ recharge ponds Calero-Alamitos Creek Trail |
| Winfield Blvd - Roadway Gap in trail continuity | City street | | |
| Winfield Blvd. - Miracle Mountain - Multi-family residential-used for parking & emergency access | Easement on private streets & common area to 84 parcels - Tract No. 8603 & / or private parcels - open space above canal | Easements restrictions limit any future development & uses other than parking & emergency access associated with residential units - open space above canal could provide alternate route | South of Canal - private open space - Rocky Ridge Golf Course North of canal - Medium High Density Residential |
| Miracle Mountain - Roadway Gap in trail continuity | City street | Vehicular circulation / parking for adjacent residences | South of Canal - Non-urban Hillside - serpentine rock embankment, no active use North of canal - Medium Density Residential |
| Miracle Mountain - Santa Teresa County Park Canal - Collection & dispersal of incidental water from adjoining hills | Easements across land held in fee by private parties representing approx. 36 % of alignment Parcels owned in fee by SCVWD representing approx. 10 % of alignment | Easement restrictions limit development & use of land to the SCVWD to " <i>construct, install, repair, reconstruct, maintain and operate a canal and pipeline for the transmission of water</i> " | South of Canal - Non-urban Hillside - cattle ranching North of canal - Medium Density Residential - Single family residential |
| Santa Teresa County Park - Public recreation | Land owned in fee by County representing approx. 15% of alignment Parcels owned in fee by SCVWD representing approx. 20% of alignment Easements on 9 parcels held in fee by 9 private parties representing .2 mile (2% of alignment) | Incompatible recreational uses overlaid on & adjacent to canal - golf & archery | Public Park - golf course, archery, trails |
| Santa Teresa County Park - Santa Teresa Blvd. -collection & dispersal of incidental water from adjoining hills | Easements across land held in fee by private parties representing approx. 4 % of alignment | Easement restrictions limit development & use of land to the SCVWD to " <i>construct, install, repair, reconstruct, maintain and operate a canal and pipeline for the transmission of water</i> " | South of Canal - Non-urban Hillside - cattle ranching North of canal - Medium Density Residential - Single family residential |
| Santa Teresa Blvd. - -Roadway - Gap in trail continuity | City street | Major Roadway / Proposed Light Rail line | Transportation Corridor |
| Santa Teresa Blvd. - Monterey Highway - Collection & dispersal of incidental water from adjoining hills | Easements across land held in fee by private parties representing approx. 7% of alignment Parcels owned in fee by SCVWD representing approx.5% of alignment | Easement restrictions limit development & use of land to the SCVWD to " <i>construct, install, repair, reconstruct, maintain and operate a canal and pipeline for the transmission of water</i> " | Tulare Hill - South of Canal - Non-urban Hillside - cattle ranching North of canal - Medium Density Residential - Single family residential |
| Monterey Highway Major Roadway Railroad-Roadway - Gap in trail continuity | Union Pacific Railroad State Highway | Major Roadway Freight & Passenger lines | Transportation Corridor |
| Coyote Creek Park Chain County Park - regional trail | Land area between road edge & creek near Metcalf Road owned in fee by SCVWD, PG&E, & Santa Clara County | Limited land area - majority of public lands north of Metcalf Road dedicated to water skiing club uses | East of Monterey Hwy. - Public Open Space - park and trail uses |

Limitations on Use of Land & Easements

All of the land the SCVWD owns in fee along the canal right of way was acquired because the land was not developable for other uses. This is because the land either underlies the canal or is just down slope of the canal in an area where development could cause landslides and failure of the canal. As long as the canal or a similar structure exists on the hillside, these restrictions on land use will persist and the SCVWD lands will have little economic development value.

Where the SCVWD has been granted an easement for the development of the canal, there are specific restrictions relating to the development and use of that land. According to a typical grant of easement upon lands underlying the canal, the SCVWD may... "*construct, install, repair, reconstruct, maintain and operate a canal and pipeline for the transmission of water.*" Those are the only purposes to which the land may be put under these easements. The land cannot be used, for example, to dispose of fill, for public recreation, or for transmission of substances other than water. In these grants of easements, the SCVWD also agrees to hold the grantor landowners free from liability for damage resulting from the existence of the canal.

If the SCVWD sells any of its easements, the purchaser would be bound by the same limits and subject to the same requirements to indemnify the underlying landowner as the SCVWD now is. Therefore, any future recreation provider would need to renegotiate the existing canal easements with each landowner to be able to offer trail activities along the canal right of way. If the SCVWD sells any of its lands that are subject to the provisions of the conservation easement, those same provisions would also bind the purchaser.

Immediately Adjacent Land Uses

Residential

Residential development located near a trail creates the potential for that trail to become a neighborhood serving facility that could be easily accessed by a large number of users. The Coyote Alamitos Canal meets this criterion in that residential developments of varying densities parallel most of the length of the canal. The northern end of the canal near the Almaden light rail/bus transit station and Almaden Lake City Park is comprised of several high-density residential complexes. The residential developments located near Almaden Lake City Park include "*Homes at Almaden Lake*", "*Lakeview*" and "*Almaden Lake Village*". Potential access points to the canal from these residential developments include Miracle Mountain Drive and Winfield Blvd. There is also a high density residential complex

adjacent to Tulare Hill with potential access from Tulare Hill Lane.

Single family residences back onto the canal for the majority of the alignment between Miracle Mountain Drive and the northern boundary of Santa Teresa Park and between the southeastern boundary of Santa Teresa County Park and the Union Pacific Railroad/Monterey Highway crossing. Many of these residents have installed gates and steps up from their properties to the canal maintenance road indicating that there is currently informal use of the canal maintenance road for recreational purposes.

Recreation

Public and private recreation opportunities can be found throughout the Santa Teresa Hills, many of which could be linked through development of the proposed trail route. These include the public recreation areas of Almaden Lake City Park and Santa Teresa County Park described in *Section III – The Proposed Route*. In addition, the Boulder Ridge Golf Course is located at the northern end of the Santa Teresa Hills adjacent to Almaden Lake City Park. This is a private golf course and access to the course is from a private road, which begins at the southern terminus of Winfield Blvd.

Agriculture

In addition to recreation, the primary land use along the east side of the Santa Teresa Hills is ranching. Cattle grazing occurs on private ranch lands located above the canal in the area between Almaden Lake City Park and Santa Teresa County Park. Access to the ranch lands is typically from private driveways that cross the canal/canal service road. Some of these access points are held in fee and others are provided through easements. Development of the trail along the canal right of way would need to continue to accommodate this cross traffic. These access points are currently used on an infrequent basis and generally should not represent a major conflict with proposed trail uses. However, during periods when cattle are being taken on or off the land, the trail could be subject to temporary closures to accommodate these transactions. Additionally, if development were to intensify in the Santa Teresa Hills, and these easements were used to accommodate heavier traffic volumes, these crossing points could become points of conflict.

Utilities

PG&E high voltage (115K and 230K) power lines traverse Tulare Hill and the Santa Teresa Hills generally following the ridgelines. Steel lattice transmission towers support the power lines. Most of the towers are located on lands held as easements. However, PG&E owns a strip of land contiguous with the southeastern edge of Santa Teresa County Park. This strip of land extends to Santa Teresa Blvd. PG&E also owns a strip of land on Tulare Hill. Maintenance vehicles access the power lines

using service roads located in general proximity to the towers and power lines. Secondary roads and footpaths provide more direct access to individual towers.

The transmission lines were built without consideration of potential trail use, and where trail users could come in contact with the towers (or lines), a potential safety hazard exists. Because of these safety concerns, PG&E frequently imposes restrictions on recreational activities below power lines and adjacent to towers. Trail development within the PG&E right of way would require coordination with PG&E to ensure compliance with their design and use requirements and the safety of trail users.

“Public Open Space” Buffer

Typically, there is a strip of land that runs between the canal maintenance road and the private residences below the canal. The width of these strips of land varies widely. The average separation between the canal maintenance road and rear property lines of adjoining residential properties is approximately 30 feet. Just south of Cottle Avenue, there is very minimal separation between the maintenance road and residential back yards. In some cases, there is as little as eight feet of separation. Much of the land was originally purchased by the SCVWD to provide enough right of way to install parallel conduits that were intended to double the capacity of the canal from 50 cfs to 100 cfs. The parallel siphons were never installed, but the SCVWD has retained ownership of the land. Ownership of the remainder of these buffer lands varies, with the City of San José and the SCVWD being the principal owners.

Between Almaden Lake City Park and Santa Teresa County Park, some of these buffer lands extend up to 600 feet from the canal maintenance road down to the local residential streets, thereby extending the open space character into the adjacent neighborhoods.

Where these buffer lands extend into the adjacent neighborhoods, they create opportunities to provide access to the canal. In some cases, driveways have been constructed from the neighboring streets. These driveways are currently used by SCVWD maintenance crews and ranchers to access the canal and the adjoining ranchlands. Potentially, some of these driveways could serve as trail entry points. The driveways at Hillrose Drive and Cahalan Avenue provide examples of potential access points.

In some cases, these buffer lands form part of the City park system. Refer to *Section III – The Proposed Route* for a discussion of Foothill Park and Century Park. Also Refer to *Appendix I - Opportunities & Constraints* and *Appendix D -Land Ownership* to see where these buffer lands are located.

Where the buffer lands interface with residential properties, there can be a reduction in privacy and a sense of visual and noise intrusion from activities that take place in these areas. There are also areas where the mowed grasslands have been altered as adjacent residents have encroached on the buffer lands to enlarge their private gardens. At the southwest edge of Santa Teresa Park near Santa Teresa Blvd., the City has worked with the local residents to develop Community gardens within these buffer lands.

Covenants Codes & Restrictions for Residents along the Coyote Alamitos Canal

When residential developments were proposed at the toe of the Santa Teresa Hills along the base of the Coyote Alamitos Canal, Covenants Codes and Restrictions (CC&Rs) were developed for the properties immediately adjacent to the canal. These CC&Rs addressed initial construction including grading and drainage, as well as ongoing construction and maintenance activities. Restrictions on post construction activities relate to irrigation design, and watering.

Under these CC&Rs, the original developers were not permitted to consider the canal as a local drainage facility. Instead, they were required to build structures to collect runoff from above the canal and convey it into the local storm drains in the developed areas. These drainage structures were built and the residents, not the SCVWD, are responsible for keeping the inlets of these structures free of debris.

The CC&Rs also place restrictions on grading for the purposes of either landscaping or building in the area between the canal and the residences. If grading is required, it must be done under the supervision a civil engineer specializing in soil and geological analysis, and the City of San José and the SCVWD must review the work. In addition, the adjacent residents are not allowed to hand water or employ irrigation systems in a manner that could create unstable soil conditions in the proximity of the canal.

By imposing restrictions on the adjacent landowners, the SCVWD is able to limit its liability should the canal structure fail because these restrictions are not followed.

Environmental Setting

For most of its length, the Coyote Alamitos Canal Trail would be located on an existing service road which would minimize the amount of new trail construction. Where the trail would be overlaid on the existing canal road, it would not impact scenic resources, sensitive biotic resources associated with serpentine

rock outcroppings or drainages, or sensitive archaeological or historic resources. Therefore, where the trail would be located on the existing service road, environmental constraints will largely be tied to existing conditions rather than new construction or future trail use. Existing conditions that have the potential to create significant obstacles to public trail feasibility include existing landslides and areas of unstable side slopes, which are dispersed throughout the site. These conditions have the potential to compromise the integrity of the maintenance road and / or the safety of the trail users and/or the adjacent landowners.

In those sections of the study area where the trail must cross discontinuous sections of the canal alignment or seek an alternate alignment, there is the potential for new construction and recreation uses to disturb or destroy sensitive biotic, archaeological and historic resources. Development of the canal trail could also impact, and be impacted by, vehicular traffic in those areas where it must cross existing streets and existing and future rail lines.

Geologic Considerations

There are several geological factors that contribute to soil instability along the canal that could affect the durability of the trail surface, the safety of the trail users, and the liability that could be incurred by the City. Thus, the geological conditions found along the trail would present various limitations to trail development. If the canal and/or canal maintenance road were to fail as a result of slide activity, people and/or adjacent properties could be harmed. Slope failures also increase maintenance responsibilities, and incur potential liability to the recreation provider for both the trail user and the residential developments in proximity to the canal.

Factors contributing to landslides along the Coyote-Alamitos Canal are geological structure, saturation, cut slopes, seismic activity, and drainage. Hillsides with fairly steep slopes (greater than 10%) that are underlain by the generally unstable Franciscan formation are especially susceptible to landslide activity. Failure along weak bedding planes or along joints within the formations contributes to landslide development, especially along the eastern portion of the canal alignment. Areas with evidence of landsliding in the past or immediately adjacent to landslide deposits are considered the most unstable slopes. Most of these, formed by natural processes such as erosion would be classed as old and inactive.

However, the maintenance road embankment, which was inadequately compacted during the original construction according to today's standards, and other grading activities that have occurred in the near vicinity, have caused a portion of some of these old slides to become active. As a result, the embankment

zone of the canal that forms the buffer between the maintenance road and the downhill residences is especially subject to erosion and mudflows. This is due to its steep slopes and the construction standards to which it was built. Refer to *Figure 2 - Coyote Alamitos Canal Typical Section of Potential Points of Geotechnical Failure*.

Future construction in the area, compounded by the inherently unstable soils of the Santa Teresa Hills, has the potential to exacerbate the development of suitable conditions for major sliding to occur. Saturated soils resulting from rainfall, leakage from the canal, or irrigation of slopes by landowners above or below the canal could all be principal contributors to the development of landslides. In addition, should residential units be permitted up slope from the canal employing septic tank leach fields instead of connecting to the City's sewerage system, the cumulative impact of these developments could result in large volumes of water being distributed into the subsurface. This could result in saturated soil conditions in these already unstable hillsides throughout the year. Modifying existing drainage patterns by altering surface runoff and concentrating flows also could result in ponding and increased saturation.

For further discussion of the geological structure of the canal and the surrounding area refer to *Appendix J Geology*.

Biotic Resources

The Coyote Alamitos Canal is a modified gunite channel that currently conveys incidental runoff from the hills above. To meet the hydraulic design requirements needed to provide flood protection, the SCVWD clears the channel of vegetation and debris every year prior to the onset of the rainy season.

Adjacent to the canal is the canal maintenance road. The maintenance road surface is an aggregate gravel bed suitability compacted to carry the loads of SCVWD maintenance vehicles (load limit H20). As such, it is also devoid of vegetation.

The resulting conditions of the canal and the maintenance road are generally unfavorable to the establishment of sensitive biotic resources. However, there are small pockets of freshwater marsh within the channel bottom where sediments have deposited on the concrete bottom that could support some wildlife, at least on a seasonal basis.

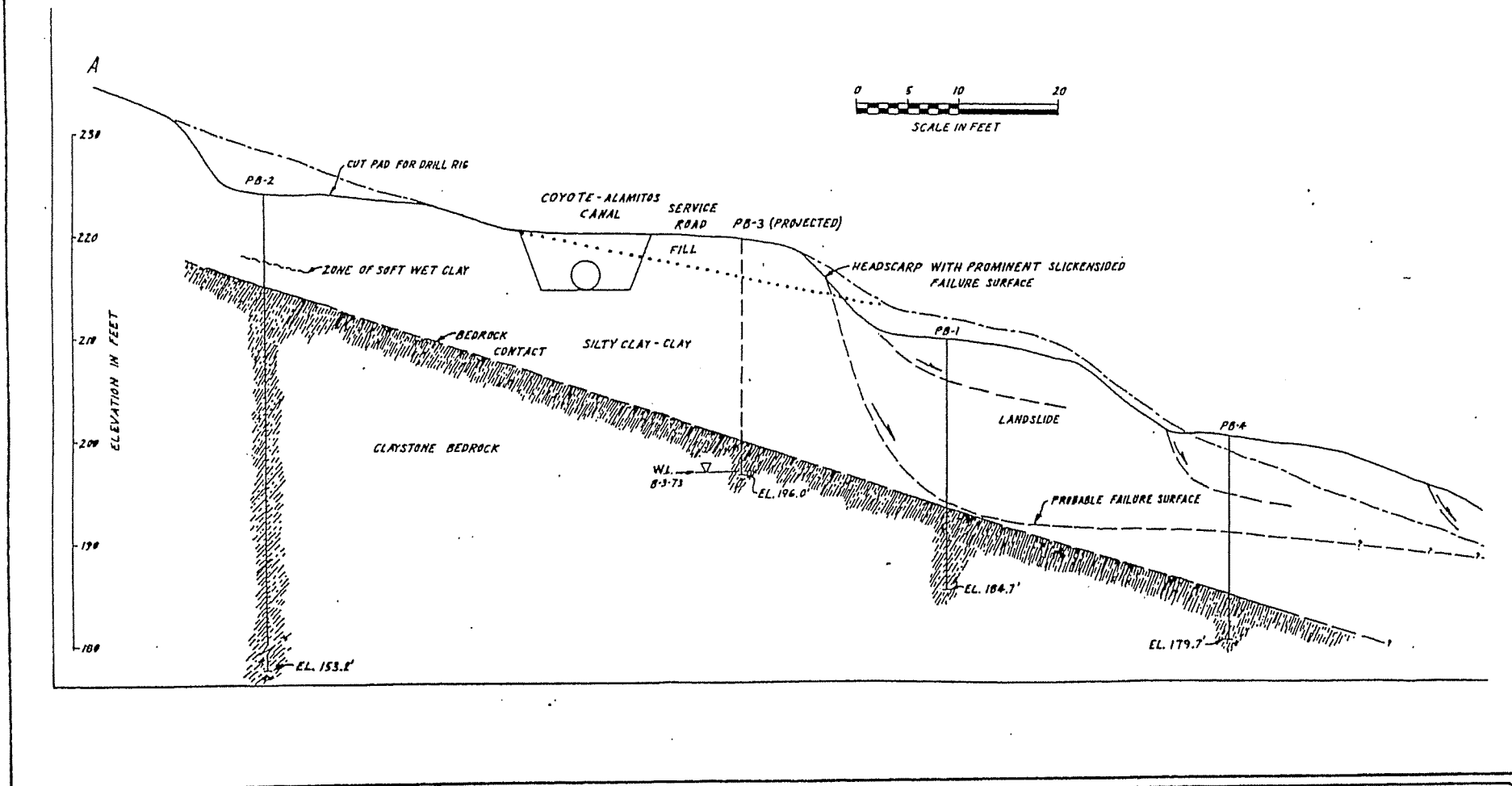


FIGURE 4.1-2 TYPICAL CROSS SECTION OF COYOTE-ALAMITOS CANAL

Figure 2 - Coyote Alamitos Canal Typical Section of Potential Points of Geotechnical Failure

Coyote Alamitos Canal / Santa Teresa Corridor Trail
Feasibility Study

Source: *Feasibility Study for Providing a Trail Between Almaden Park and the Coyote Creek Park Chain*, August 1989

In those locations where water from the canal is siphoned underground, and there are gaps in the canal maintenance road, the natural landscape has generally been left intact. In these locations, there are pockets of several plant community types, including oak woodland, oak riparian woodland, Diablan sage scrub, grassland, mixed native grassland and coyote brush scrub. Five of these plant communities - serpentine grassland, oak riparian woodland, oak woodland, seasonal wetlands and Diablan sage scrub—are designated as a high priority in the California Department of Fish and Game (CDFG) Inventory (CDFG, 2002). This category contains native plant communities that are regarded by CDFG as having special significance under the California Environmental Quality Act (CEQA). The serpentine grasslands within the Tulare Hill area are considered a sensitive habitat according to CDFG and United States Fish and Wildlife Service (USFWS) due to the potential occurrence of rare, threatened or endangered species (i.e., Bay checkerspot butterfly and potential rare plant species) and its limited distribution within the region.

From a resource perspective, the most challenging locations are the segments of the right of way where the canal water is siphoned underground. In these locations, there is no maintenance road. Seasonal drainages, and / or significant serpentine rock outcroppings extend down the side slopes of the adjacent hills to the edge of the Canal and across the canal right of way (e.g. east of Santa Teresa Blvd. and at Santa Teresa Springs).

The first significant gap is found at the terminus of Miracle Mountain Drive where there is a very steep serpentine rock embankment that would need to be traversed or circumvented to provide trail continuity. Above the canal right of way the north facing slopes of the Santa Teresa Hills closest to the Almaden Lake City Park support oak woodlands and serpentine grassland (nearest the nose of the hill at the terminus of Miracle Mountain Road).

The woodlands supports a dense overstory of vegetation including coast live oak (*Quercus agrifolia*) and interior live oak (*Quercus wislizenii*) with winter deciduous species of valley oak (*Quercus lobata*), and blue elderberry (*Sambucus mexicana*). In the more exposed areas, the understory is dense with California rose (*Rosa californica*), toyon (*Heteromeles arbutifolia*), snowberry (*Symphoricarpos mollis*), and poison oak (*Toxicodendron diversilobum*).

Serpentine soils are derived from serpentine bedrock. Due to the chemical composition of the soil (i.e., relatively high concentrations of iron and manganese and low levels of calcium) the serpentine grassland areas support numerous endemic plant

species. As described above, these native plant communities are regarded by CDFG as having special significance under CEQA. Serpentine grasslands are also considered a sensitive habitat according to United States Fish and Wildlife Service (USFWS).

The second significant gap is located approximately 600 feet east of Santa Teresa Blvd. Here the water from the canal is again siphoned underground. This gap, which is approximately 550 feet long, includes a major ravine and serpentine rock outcropping that may contain potentially significant geological and biotic constraints associated with serpentine soils, oak riparian woodland, small seasonal wetlands and hillside seeps, and serpentine grassland. Where shallow basins are found within these drainages, they may, when moist, provide suitable conditions for a variety of plant species, which in turn offer forging, breeding and nesting environments for a range of wildlife, some of which may be endangered species.

These sensitive habitats may create major resource barriers to trail continuity where the trail design solutions could impact the natural resources. To ensure that appropriate mitigations are incorporated into the designs, federal and state regulatory agencies would require permits prior to construction in these sensitive areas. Loss of any wetlands, riparian areas or serpentine soils would be seen as a significant loss of sensitive wildlife habitat that would have to be mitigated through replacement of similar vegetation types within the project area.

For further discussion of the biotic resources that can be found within and adjacent to the Coyote Alamos Canal and the surrounding area, refer to *Appendix K - Preliminary Biological Assessment*.

Visual Resources

The unique habitat and wildlife associated with the Santa Teresa Hills and Tulare Hill provide viewing opportunities for trail users and many of the residents situated along the canal alike. However, the difference in elevation between the canal, which is raised above the valley floor, and the adjacent residences creates different viewing perceptions for the trail user and the adjacent residents. These viewing opportunities and constraints are described below.

The Coyote Alamos Canal corridor traverses the edge of a variety of habitats. Vegetation types include grasslands, Oak Savannah, and California Bay/Oak riparian woodlands in the Santa Teresa Hills. Serpentine rock, and the unique habitat it supports, characterizes most of Tulare Hill. Because the canal runs above the surrounding neighborhood, it also offers panoramic views of the Santa Teresa Valley, the Mount Diablo Range (to the east), and from Tulare Hill, the Santa Cruz Mountains and Mount Umunhum to the west.

Since the canal maintenance road is an existing structure, the additional use of public recreation would not typically result in major visual alteration of the area. Nor would this use obstruct or alter the existing views from the adjacent properties or thoroughfares.

However, the raised elevation of the canal compared to the adjacent residents could reduce privacy and create a sense of visual and noise intrusion into backyards and often the second story of some of the residences. While some of the residents may not perceive the viewing of users as a negative consequence of living adjacent to the canal, other residents may desire additional visual screening between their homes and the proposed trail.

In those areas where new construction would be required to create a continuous trail, there is a potential for construction activity (e.g. grading on a hillside) and/or new structures (e.g. bridges to cross roads) to alter or obstruct the existing views from adjacent properties or thoroughfares.

Archaeological & Historical Resources

There are three primary eras represented within the study area: Native American, Spanish Rancho, and American ranching and mining (up to the mid-twentieth century). Significant historic and prehistoric sites containing artifacts from each of these eras are dispersed throughout the Santa Teresa Hills. The quantity of these resources is so numerous that the *1992 Santa Teresa County Park Master Plan* stated that it might be appropriate to designate this hillside area an “*historic landscape resource zone*”.

In areas where the canal maintenance road is existing, the addition of recreational uses would not impact these resources. In fact, use of the canal as a public trail would facilitate access to interpretive historic sites such as the Bernal-Gulnac-Joice Historic Ranch House in Santa Teresa County Park. However, where the canal is discontinuous, new construction along the canal route, and construction of new routes away from the canal has the potential to disturb or destroy these historic and prehistoric sites. These impacts could occur at the time of construction, and the resulting trail could potentially direct new recreational uses into sensitive historic and prehistoric sites.

Traffic - Non-motorized Circulation Networks & Barriers

Where the Coyote Alamos Canal interfaces with the street infrastructure, siphon stations were installed to direct the water through pipes under the street. At these points, the canal maintenance road is non-existent. These sections of the alignment create gaps that would need to be resolved to provide a safe, continuous trail experience.

Within the canal alignment there are five streets where this situation occurs: Winfield Blvd., Miracle Mountain Drive, Bernal Road, Santa Teresa Blvd., and Monterey Highway (which also includes the Union Pacific Railroad). In addition, Coleman Road between Winfield Blvd. and Miracle Mountain Drive could serve as an alternative alignment for portions of Alternatives 1 and 2. Coleman Road is one of the primary streets identified in Alternative 5 to provide an on-street connection between Almaden Lake City Park and Santa Teresa County Park. Each of these streets has different traffic components relative to the overall street design. Traffic considerations include sight lines, traffic volumes, and crossing alignments (e.g. crossing would be located mid-block, at a street terminus, etc.). Therefore, each of the crossings would require unique, site specific design solutions to address differences in street traffic patterns. Refer to *Map 7 – Roadway Gaps to Canal Continuity*.

Winfield Blvd. Winfield Blvd. is a two lane residential street that provides access to Almaden Lake City Park, the Los Alamitos / Calero Creek Trail and the Boulder Ridge Golf Course. The street is signalized at the nearest intersection, which is Coleman Road. Coleman Road is located one-quarter mile north of the entry to Almaden Lake City Park. Winfield Blvd. terminates at the golf course entry drive. This street would provide a logical point to access the Coyote Alamitos Canal Trail for Alternatives 1, 2 and 3. A mid-block crossing of Winfield Blvd. would need to be identified to provide access to the Coyote Alamitos Canal Trail from Almaden Lake City Park. This crossing could also provide a link to the Los Alamitos / Calero Creek Trail as users of that trail currently access the trail from Winfield Blvd. at the entry to Almaden Lake City Park.

Miracle Mountain Drive. Miracle Mountain Drive is a residential street that terminates at the canal right of way. At the terminus of the street is a very steep serpentine rock embankment. The configuration of the street, and its proximity to the canal right of way and two high-density residential complexes, creates a natural access point for the trail. However, if Miracle Mountain Drive were to become an access point to the trail, associated staging activities at this site could be disruptive to the single family residential homes that are located along Miracle Mountain Drive and along the canal.

Bernal Road. Bernal Road, in the area of Santa Teresa County Park, is a two-lane, winding road with limited sight lines. Where Bernal Road crosses the canal right of way, it serves as the primary vehicular circulation route through the County Park. Primary use is by visitors to the County Park, staff and visitors to the Muriel Wright Girls Ranch (within the Park), and employees of the IBM research facility. As the canal maintenance road is not a designated park trail, there is not a designated crossing

within the canal right of way. Depending on the selected trail route through the County Park for Alternatives 1, 2, or 3, there are existing marked trail crossings uphill from the canal alignment. Crossing constraints at the canal are primarily associated with limited visibility resulting from the curvilinear road alignment and steep terrain.

Santa Teresa Blvd. Santa Teresa Blvd. separates the Santa Teresa Hills from Tulare Hill. The crossing at Santa Teresa Blvd. is one of the more challenging crossings. At this location, the Coyote Alamos Canal is piped under Santa Teresa Blvd. near the crest of the road. Santa Teresa Blvd is classified as a minor arterial with two to four lanes within San Jose. This extends from the Highway 85/87 interchange in San Jose to Gilroy. Constraints associated with this mid-block crossing include four lanes of traffic (two in each direction), limited visibility, and high motor vehicle traffic volumes and speeds. Peak AM traffic averages 1418 vehicles per hour (vph) and peak PM traffic averages 1399 vph. The posted speed limit is 45 mph. There is also a proposal to extend the light rail train system along this section of Santa Teresa Blvd.

In addition to the existing and future traffic constraints, the solution for the Santa Teresa Blvd. crossing will need to take into account several design, land use and environmental constraints. These include private/public property ownership of the land south of the canal on both sides of the road, design feasibility for either a trail overcrossing or an at-grade crossing, and environmental mitigations that may be required in association with implementing this crossing. As this crossing would cross existing Valley Transportation Authority (VTA) bus routes and a future light rail line, the designs for this crossing will be subject to review and permitting by VTA, as well as the City.

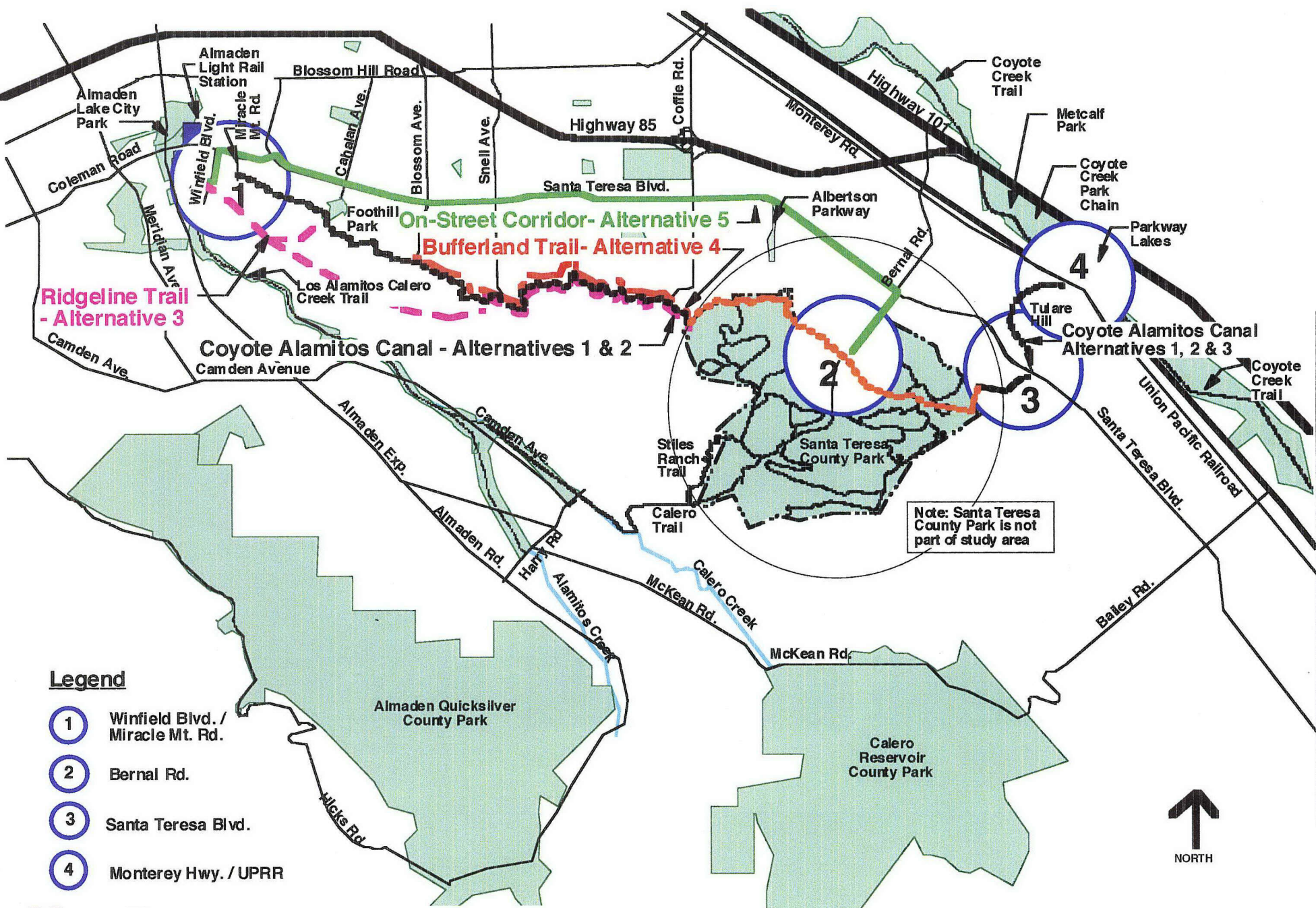
Monterey Highway (State Route 82) /Union Pacific Railroad.

The dual transportation corridor created by the parallel alignments of the Monterey Highway and the railroad crossing results in the most challenging crossing. Monterey Road is classified as a four-lane divided arterial by the City of San José and as an Arterial Primary Urban road (APU) by Santa Clara County for the portion that is in the County's jurisdiction. Monterey Highway from Blossom Hill southward, generally has two through lanes in each direction. The lanes are typically 12 to 13-foot wide lanes, with 6-foot paved shoulders. In some locations, there are dedicated right-turn-only lanes, and, in some locations, there are dedicated left-turn-only lanes. However, the further south Monterey Highway extends toward Morgan Hill, the fewer dedicated turn lanes there are. South of the Bernal Road overpass, the posted speed limit on Monterey Road is 55 mph. Peak AM traffic averages 1662 vph and peak PM traffic averages 1759 vph. Motor traffic constraints associated with

crossing this highway are similar to those described for Santa Teresa Blvd. In addition, this crossing must address the design requirements of crossing an active passenger/freight rail line.

Design challenges associated with the Monterey Highway/Railroad crossing include extreme variations in elevation (approximately 40 feet) and narrow landing area on each side of the highway where the trail would connect to the Coyote Creek Park Chain (east side) and the canal (west side). There would also be potential conflicts with existing uses (e.g. water skiing) on the east side of Monterey Highway. As this crossing would traverse the Union Pacific Railroad's (UPRR), California Public Utilities Commission's (CPUC) and Caltrans' jurisdictions, the designs for this crossing will be subject to review and permitting by all of these agencies.

Implementation of Alternatives 1, 2 or 3 will require future engineering and environmental studies to evaluate potential opportunities for crossing Santa Teresa Blvd. and Monterey Highway/Union Pacific Railroad given the design, land use and environmental constraints associated with each of these crossings.



Map 7
Roadway Gaps to Canal Continuity

**Coyote Alamos Canal /
 Santa Teresa Trail Corridor
 Feasibility Study**

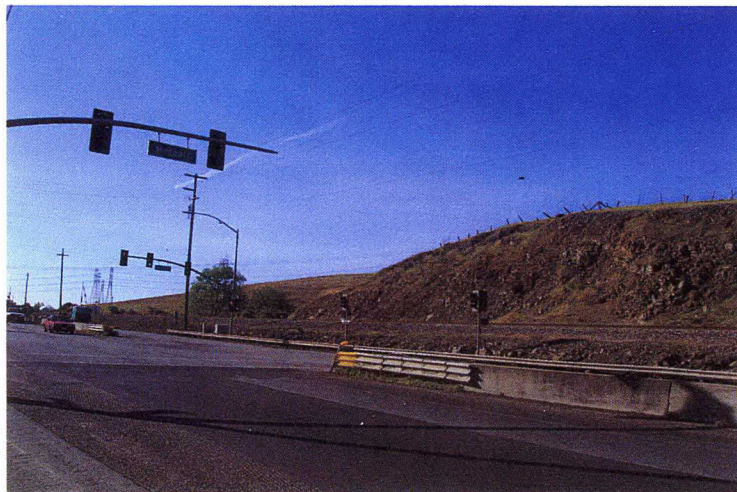
Figure 3 - Views of Roadway Crossings



South End of Miracle Mountain



Coyote Alamos Canal Crossing At Santa Teresa Boulevard



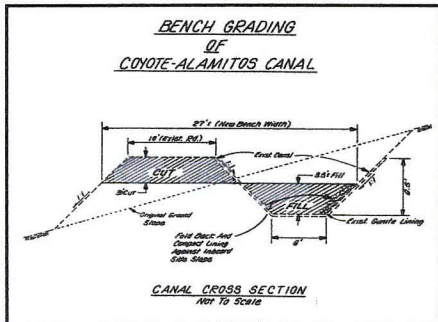
UPRR & Monterey Road at Metcalf Road

V. Alternatives Considered for Accommodating Trail Use within the Study Area



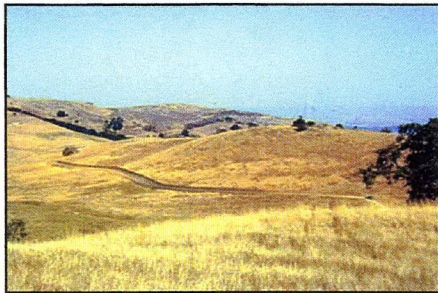
Alternative 1 - Canal Maintenance Road

- ❖ Trail would use the existing maintenance road, which is a compacted aggregate, level surface.
- ❖ Solutions would be sought to provide trail continuity where the maintenance road is discontinuous due to geographic or street barriers



Alternative 2- Modified Canal

- ❖ Trail would follow the canal alignment
- ❖ Portions of the canal would be demolished, filled and regraded to create a wider trail surface
- ❖ Solutions would be sought to provide trail continuity where the maintenance road is discontinuous.



Alternative 3- Ridgeline

- ❖ Ranch roads would be used in conjunction with or in lieu of a PG&E road that follows the ridgeline of the Santa Teresa Hills.
- ❖ Near Colleen Rd. the ridgeline route would be directed back to the canal. The trail would then continue along the canal to Coyote Creek.



Alternative 4 - Blossom Ave. - County Park

- ❖ The trail would extend from Blossom Avenue to Santa Teresa County Park.
- ❖ Route would be located below the canal maintenance road on existing City and SCVWD land.
- ❖ Trail options severely constrained by the physical characteristics of route



Alternative 5 - On-street Route Connecting Almaden Park & Santa Teresa County Park

- ❖ On-street bike and pedestrian route using Winfield Blvd., Coleman Road, Santa Teresa Blvd. and Bernal Road.
- ❖ The community did not support this alternative as a viable option to a canal trail.

V Alternatives Considered for Accommodating Trail Use within the Study Area

The Decision to Look at Alternative Routes

Why Alternatives Routes were Considered

Five alternative routes were identified to give full consideration to developing a trail within the Santa Teresa Corridor. Given the severe constraints associated with developing a trail within the Coyote Alamitos Canal right of way described in *Section IV – Feasibility Analysis of Alternative 1*, three additional alternatives were also considered beyond the canal right of way.

In determining alternative routes, the emphasis was on selecting alignments that could have the potential for reducing the constraints, while maintaining the vision for a trail as established in the goals for the project. Due to the specific nature of the project area, the analysis of alternative alignments accentuated the importance of:

- ❖ Utilizing public lands wherever continuity could be provided
- ❖ Minimizing impacts to the environment
- ❖ Considering the safety of local residents and the security of the adjoining properties
- ❖ Considering the safety and convenience of potential trail users.

The selection of alternatives also took into account previous studies of the canal and revisited recommendations set forth in those earlier studies. This sub-section gives an account of each alignment, a brief summary of the conceptual design, and identifies uses proposed for each of the five trail alternatives.

The five alternatives are identified as:

- ❖ Alternative 1 - Construct the Trail on the Existing Maintenance Road
- ❖ Alternative 2 - Modify Canal Right of Way to Create a Wider Trail
- ❖ Alternative 3 - Santa Teresa Hills Ridgeline Route
- ❖ Alternative 4 - Existing Public Lands in the Project Area between Blossom Avenue and Santa Teresa Park
- ❖ Alternative 5 - Use of On-Street Bicycle Routes and Sidewalks to Connect Almaden Lake City Park and Santa Teresa County Park.

As the Alternative 1 best fits the original objective of the study, a comparison of this alternative is given for each of the other alternatives. Also refer to *Appendix M - Table M-1 - Summary Comparison of Trail Alternatives*.

**Alternative 1
Construct the Trail
on the Existing
Maintenance Road**

Alternative 1 - Canal Maintenance Road

Trail would use existing compacted aggregate maintenance road

Primary Benefits

- ❖ Virtually level surface and panoramic vistas
- ❖ Easy access from local neighborhoods - opportunities for family-oriented recreation
- ❖ Easy access to transit enhances commute opportunities

Primary Constraints

- ❖ Majority of Canal on private land and views into private residences
- ❖ Existing Canal infrastructure results in winter flooding and high maintenance costs
- ❖ Hazards include steep side slopes of canal, ongoing landslides and incompatible adjacent uses
- ❖ Gaps in trail alignment where water was piped underground and canal maintenance road doesn't exist - typically due to geographic conditions (e.g. ravines) and street barriers
- ❖ Potential to impact biological and / or archaeological resources where new construction is required to close existing gaps.

Community Support

At the April 23, 2003 community meeting:

- ❖ 40% of the community supported development of the entire canal route – Almaden Lake City Park to Coyote Creek Parkchain
- ❖ 30% of the community supported development of a portion of the canal route – Cahalan south to Coyote Creek Parkchain (However, there was concern relating to privacy and security issues among the neighbors residing along this route)
- ❖ 100% of the community supported further study on focused areas (Santa Teresa County Park to the Coyote Creek Parkchain -southeastern portions of Alternative 1).

Trail Alignment

This alignment would follow the canal maintenance road in its entirety between Almaden Lake City Park and Santa Teresa County Park and between Santa Teresa County Park the Coyote Creek Park Chain. Where the trail would be located within Santa Teresa County Park, the specific alignment would be coordinated with the Santa Clara County Parks and Recreation Department. Within the County Park, the goal would be to create trail continuity, while avoiding incompatible/ hazardous uses that are located along the canal. These uses include the County Park golf course and archery range, and high voltage electrical lines

that cross the trail route. Where the canal maintenance road is discontinuous due to geographic or street barriers, solutions would be sought to provide trail continuity.

Trail Design & Use

The existing canal maintenance road is a compacted aggregate, virtually level surface, which serves as an attraction for a variety of family-oriented recreation trail uses. It could also provide enhanced commute opportunities. This surface would be retained to allow for both trail use and canal maintenance vehicles. Design solutions would need to be developed to minimize safety hazards associated with the steep side slopes of the canal, ongoing landslides that can be expected to occur within the right of way of the canal, and ongoing erosion of the canal's service road embankment. Where the width of the maintenance road narrows to 7'-6" on the west side of Tulare Hill, decisions would need to be made regarding trail use activities. The narrow width would be acceptable if use was limited to pedestrian activities. However, substantial grading would have to be done to widen the road to meet the City's multi-use trail standards. The average slope of the hill where the maintenance road has been cut into the slope is 60%. The steep gradient of the adjacent slopes has the potential to create an unstable trail surface given the soil types found on Tulare Hill.

Landscape options for screening the area between the trail and the residences would also need to be considered. Landscape design options would need to be determined through an open dialogue with the adjacent neighbors. The intent would be to create a buffer that would provide a sense of privacy without creating hiding places along the trail or eliminating desired views from the residences. Possible mitigation for potential and/or perceived loss of privacy/fear of trespass, could be the planting of yucca or other "non-friendly" plants at top of slope facing the rear yards of the residential properties. However, the expense of this installation and maintenance would also need to be acknowledged.

Ongoing Maintenance

Prior to construction, the City would need to develop a maintenance and operations plan for the trail that would include adequate funds to address anticipated ongoing landsliding within and adjacent to the canal right of way up slope of the canal and down slope of the maintenance road. Currently the SCVWD spends approximately \$50,000 on an annual basis to maintain the canal right of way. In addition to this unique and costly maintenance requirement, the City would also need to allow for routine trail maintenance and operational costs.

Alternative 2

Modify Canal Right of Way to Create a Wider Trail

Alternative 2 - Modified Canal

Trail would follow the canal alignment, but portions of the canal would be demolished, filled and re-graded to create a wider trail surface

Primary Benefits

- ❖ Virtually level surface and panoramic vistas
- ❖ Reconfiguration of canal could provide a wider area for trail use and an opportunity to create a landscaped "privacy buffer" adjacent to the residences located below the canal right of way
- ❖ Easy access from local neighborhoods - opportunities for family-oriented recreation
- ❖ Easy access to transit enhances commute opportunities

Primary Constraints

- ❖ Majority of Canal on private land and views into private residences
- ❖ Hazards include steep side slopes of canal, variations in trail surface width where canal would remain to convey hillside drainage
- ❖ Incompatible adjacent uses (i.e. archery)
- ❖ Gaps in trail alignment where water was piped underground and canal maintenance road doesn't exist - typically due to geographic conditions (e.g. ravines) and street barriers
- ❖ Potential to impact biological and / or archaeological resources where new construction is required to close existing gaps.

Community Support

At the April 23, 2003 community meeting:

- ❖ 40% of the community supported development of the entire canal route – Almaden Lake City Park to Coyote Creek Parkchain
- ❖ 30% of the community supported development of a portion of the canal route – Cahalan south to Coyote Creek Parkchain (However, there was concern relating to privacy and security issues among the neighbors residing along this section of the route)
- ❖ 100% of the community supported further study on focused areas (Santa Teresa County Park to the Coyote Creek Parkchain) (Santa Teresa County Park to the Coyote Creek Parkchain - southeastern portions of Alternative 2).

Trail Alignment

In this alternative, the trail would also be constructed within the existing right of way, which incorporates both the canal and the canal maintenance road that run between Almaden Lake City Park and the Coyote Creek Park Chain. The primary difference between Alternative 1 and Alternative 2 would be the design of the trail structure. This alternative incorporates the recommendations from the Santa Clara Valley Water District's 1983 Canal Abandonment Plan. Refer to *Appendix A - Santa Clara Valley Water District's Proposed Abandonment Study Maps & Cross Section*, for a more detailed description of the abandonment plan. It should be noted that while the City has documented their support for an abandonment plan that would change storm water flows and management practices, they have never indicated support for assuming control of the canal right of way for storm water management or recreational purposes.

If the canal were to be removed, the drainage run-off would require collection to avoid sheet-flow off the hillside and into the yards of the residences. Calculations were made to understand the impact of this change. It can be expected that 128 Acres (approximately 1/10th of Coyote Alamos Canal drainage basin) would produce a flow of 140 cfs (cubic feet per second) during a 10-year event¹. For reference, a 24-inch Reinforced Concrete Pipe (RCP) can carry a flow of 32 cfs (i.e. roughly fifty 24" RCP's would be required to transmit hillside runoff of 140 cfs from a 10-year storm).

Filling in the canal and constructing a replacement collection and transmission system is technically feasible, but would require significant resources to design, construct and maintain. The analysis/design effort would need to evaluate the establishment of localized retention systems to replace the function of the existing canal, assess the capacity of the City system to transmit the calculated runoff, and assess the maintenance requirements of the facilities planned. In addition to the engineering aspects, land acquisition (including easements), costly new construction (i.e. earthen berms, retaining walls, piping, and water retention basins) and regulatory approvals would likely be required as the canal passes through private property.

Trail Design & Use

The SCVWD's canal abandonment project would consist of destroying approximately 54% of the canal. The remainder was to be retained due to the lack of conveyance capacity of the City of San José's storm drainage system and the close proximity of adjacent houses to the canal. Under this scenario, portions of the canal located between the Coyote Creek Park Chain and Santa Teresa Blvd. would be demolished, filled and re-graded to create a wider trail surface. Similarly, the sections of the canal between Santa Teresa Blvd. and the County Park golf course, and between Bernal Road and Cottle Road would be demolished. A new trail bed would then be developed between Santa Teresa Blvd. and the southern boundary of the park. A new trail bed would also be established between the northern park boundary (Bernal-Gulnac-Joice Historic Ranch House) and Cottle Road. The alignment within Santa Teresa County Park would be coordinated with the Santa Clara County Parks and Recreation Department. In those areas where the canal is to be removed, some form of runoff protection would be constructed to keep the re-graded bench from eroding. The canal and canal maintenance road would be retained between Snell Road and Cahalan Road, and between Cahalan Road and Miracle Mountain Road. This is due to the proximity of the adjacent homes, lack of capacity in the City's drainage system, and the integration and dependence of the City's storm water system with the canal in these

¹ The 10-year event references a storm of such magnitude that it is only expected once every 10 years.
Coyote Alamos Canal / Santa Teresa Trail Corridor
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locations. In areas where the canal would be retained, design solutions would be sought to provide a uniform trail experience with the wider trail sections. Where the canal maintenance road is discontinuous due to geographic or street barriers, solutions would be sought to provide trail continuity.

Development of the trail in a right of way that no longer included the canal would allow for a wider trail that could accommodate both an asphalt trail and compacted gravel or decomposed granite shoulder(s) and a landscape area. However, demolition of canal infrastructure would be very expensive and require huge volumes of fill. In addition, because the canal would not be removed in its entirety, there would be design challenges associated with the transition areas between the wider and narrower sections of trail. Refer to *Appendix A - Santa Clara Valley Water District's Proposed Abandonment Study Maps & Cross Section* plans and cross-sections delineating historic SCVWD's abandonment proposals.

Comparison with Alternative 1

Because Alternative 2 would be located within the same right of way as Alternative 1, many of the same obstacles relative to fee ownership and easement restrictions would have to be overcome. Where the right of way could accommodate a wider trail surface, it would make the trail safer by reducing steep drop-offs into the canal, and providing more room for passing. The wider trail area would also allow for a wider variety of trail uses. However, the transition areas between the wide and narrow trail sections could create new safety hazards. Removal of the canal infrastructure would be a complex and costly engineering feat requiring the removal of the existing canal structure, filling of the channel and installation of new drainage infrastructure, including the construction of retaining walls, earthen berms and other water retention and erosion control measures. This construction project would require a massive quantity of fill, which may be difficult to attain. Removal of the canal could bring with it unknown liabilities associated with future slope instability and drainage patterns. These liabilities would have to be assumed in their entirety by the City, as it would be the SCVWD's intent to cease operating and maintaining the canal. It is anticipated that the maintenance costs for the trail and the new drainage collection system would significantly exceed the costs currently being realized by the SCVWD and would exceed those described for Alternative 1. This is due to the added difficulty of cleaning inlets and drainage pipes, and the addition of maintaining a trail surface maintenance to a standard acceptable for recreation use, as compared to the currently simple act of removing material from the canal.

**Alternative 3
Santa Teresa Hills
Ridgeline Route**

Alternative 3 - Ridgeline

Ranch roads would be used in conjunction with, or in lieu of a PG&E road that follows the ridgeline of the Santa Teresa Hills. Near Colleen Rd. the ridgeline route would be directed back to the canal. The trail would then continue along the canal to Coyote Creek.

Primary Benefits

- ❖ Panoramic vistas
- ❖ Strong community support for preserving the Santa Teresa Hills as open space for recreation and for the rural character of the viewshed

Primary Constraints

- ❖ Majority of alignment is on private land
- ❖ Where alignment would follow canal, Alternative 3 would still need to address privacy concerns of private residents
- ❖ Access to trail would be limited - would not provide neighborhood serving recreation and commute benefits
- ❖ Several points of connections between Almaden Lake City Park and the ridgeline would need to be evaluated to avoid trespass onto the private golf course
- ❖ Terrain up to the ridgeline is very steep. It would be very difficult to develop ADA compliant access throughout the length of the ridgeline
- ❖ Alternative 3 would not resolve winter flooding and high maintenance costs associated with existing canal infrastructure
- ❖ Alternative 3 would still have to address hazards associated with steep side slopes of canal, ongoing landslides and incompatible adjacent uses
- ❖ Alternative 3 would still contain gaps in trail alignment where water was piped underground and canal maintenance road doesn't exist - typically due to geographic conditions (e.g. ravines) and street barriers
- ❖ Alternative 3 would have a greater potential to impact biological and / or archaeological resources since more new construction would be required to provide a continuous trail along the ridgeline in addition to the new construction required to close existing gaps along the canal route.

Community Support

At the April 23, 2003 community meeting:

- ❖ 75% of the community supported development of a Ridgeline Trail
- ❖ 100% of the community supported preservation of the Santa Teresa Hills as Open Space (which would enhance opportunities to pursue development of Alternative 3).
- ❖ 100% of the community supported further study on focused areas (Santa Teresa County Park to the Coyote Creek Parkchain, which is included as a portion of Alternative 3)
- ❖ 30% of the community supported development of a portion of the canal route – Cahalan south to Coyote Creek Parkchain, which includes that portion of the canal that includes that portion of Alternative 3 which is proposed to follow the canal (However, there was concern relating to privacy and security issues among the neighbors residing along this section of the route).

Trail Alignment

The August 1989 *Feasibility Study for Providing a Trail Between Almaden Park and the Coyote Creek Park Chain* proposed an alternative alignment extending southward from Almaden Lake City Park. This route was originally proposed to begin south of Almaden Lake City Park and then follow the PG&E access road for approximately two miles. It would then reconnect to the Coyote Alamitos Canal maintenance road near Colleen Drive where the PG&E transmission lines intersect the canal. This alternative provides a review of that 1989 proposal (with the additional consideration of supplementing the use of the PG&E access road with other existing ranch roads) in light of policy, land use and environmental regulatory changes that have occurred over the last 14 years.

In these intervening years, The Boulder Ridge Golf Course was developed across a portion of this proposed trail route. Therefore, several new points of connections between Almaden Lake City Park and the ridgeline would need to be evaluated to avoid trespassing onto the private golf course. If there are existing ranch roads that would provide a higher quality recreation experience than the PG&E access roads, with reduced environmental impacts, then those ranch roads should be used in conjunction with or in lieu of the PG&E access road.

Near Colleen Road, the ridgeline route could be directed back to the canal along an existing ranch road. The trail would then continue along the canal maintenance road to the Coyote Creek Park Chain. Where the canal maintenance road is discontinuous due to geographic or street barriers, solutions would be sought to provide trail continuity.

Trail Design & Use

Developing a feasible public access route along the ridgeline would need to take into account the existing land uses; the route should not disrupt the ranching and private recreation uses. Where PG&E, and/or ranch maintenance access roads are discontinuous and where the trail design must traverse steep, unstable terrain, engineering feasibility design studies may be needed. Where the trail would be located adjacent to the PG&E towers and under the transmission lines, design solutions would need to be developed to protect trail users from harm, and PG&E high voltage electrical transmission towers and lines from vandalism. Potential negative visual sensory experiences associated with the towers and transmission lines would also need to be considered. The trail surface along the ridgeline would follow existing ranch or PG&E earthen service roads where available and appropriate.

Where the PG&E service roads are discontinuous, the trail would be routed along existing ranch roads wherever possible and appropriate relative to the desired trail experience. The intent

should be to minimize the amount of new construction in areas of steep, unstable terrain and areas with high sensitive resource potential in the Santa Teresa Hills.

Where required, new trail construction within the Santa Teresa Hills would consist of graded, compacted earth trail sections that could accommodate a variety of trail uses. Along the canal maintenance road, the existing compacted, aggregate surface would be retained to allow for both trail use and canal maintenance vehicles.

Comparison with Alternative 1

Alternative 3 would eliminate some of the obstacles to designing a trail along the canal for a portion of its length. Where the trail is located away from the canal, safety issues associated with the steep canal side slopes would not exist. Concerns about visual and noise intrusion into the adjacent residence would also be reduced.

The trail would still be located on private lands and partially overlaid on utility easements, so many of the same obstacles relative to fee ownership and easement restrictions would have to be overcome.

As the alignment would begin at Almaden Lake City Park and then would return to the canal right of way north of Bernal Road, the major challenges associated with all of the street crossings would still need to be addressed.

In addition, there would be potential impacts associated with the compatibility of locating a trail across ranch lands and immediately adjacent to a private golf course. More significant from a regulatory perspective, a route across the ridgeline would traverse potentially sensitive biotic, geologic and archaeological resources.

Moreover, this alternative would not meet community goals for family oriented recreation (e.g. neighborhood access, flat walkable terrain). Nor would it provide commute opportunities due to the steep, remote terrain associated with the ridgeline.

**Alternative 4 -
Existing Public Lands
between Blossom Ave
& Santa Teresa
County Park**

Alternative 4 - Blossom Ave - County Park

The trail would extend from Blossom Avenue to Santa Teresa County Park. This route would be located below the canal maintenance road on existing City and SCVWD land.

Primary Benefits

- ❖ Potential to create a series of parks on existing public land below the canal
- ❖ Easy access from local neighborhoods - opportunities for family-oriented recreation

Primary Constraints

- ❖ Trail alignment subject to the CC&R development restrictions
- ❖ Physical characteristics - steep narrow, unstable terrain and sensitive biological resources
- ❖ Many of the private parcels extend to canal
- ❖ Several of the parcels under City or SCVWD jurisdiction are limited to very narrow strips of land that would require trail to hug residential boundary fences.
- ❖ This alternative route provide views directly into private homes and backyards
- ❖ Alignment would not resolve flooding & maintenance costs associated with canal infrastructure.

Community Support

At the April 23, 2003 community meeting:

- ❖ This Alternative was not recommended by the consultant team, as there is not adequate land available to develop a continuous trail below the canal between Blossom Ave and Santa Teresa County Park
- ❖ No vote taken for Alternative 4 - Existing Public Lands between Blossom Ave and Santa Teresa County Park

Trail Alignment

Under this alternative, a trail would be developed between Blossom Avenue and Santa Teresa County Park. This alternative explores the potential to create a series of parks connected by a continuous trail route on existing public land below the canal.

Between Blossom Avenue and Santa Teresa County Park, the majority (21 of 29 parcels) of the land within the canal right of way in this area is in private ownership. However, below the canal in this location, there are several parcels of land that are in public ownership. Typically, these parcels form a strip of land that runs between the canal maintenance road and the private residences below the canal. Several of these parcels extend all the way to the city streets, providing opportunities for access from local neighborhoods.

Beginning at Blossom Avenue, there is an undeveloped private parcel that extends down to Colleen Drive. This 850-foot long parcel runs north and south of Blossom Avenue. At each end of

the parcel a cluster of houses backs up to the toe of the canal maintenance road embankment.

Continuing south, the canal and maintenance road embankment is held in fee by the SCVWD. However, the narrow and steep configuration of the parcel would not allow for trail construction between the canal and the residences.

Beginning at Shadelands Drive and extending past Sakamoto Elementary School to Snell Avenue is undeveloped City land. This parcel is approximately one-half mile long. The land between Snell Avenue and the intersection of Mindy Way and Galen Drive, a distance of one-quarter mile, is comprised of ten private parcels and one SCVWD parcel. A PG&E easement crosses this portion of the canal. SCVWD (1330 feet) and City lands (4200 feet) resume south of Mindy Way and parallel Galen Drive and Weybridge Drive for approximately one mile to Cottle Road. This undeveloped buffer land includes Century Oak City Park. (Refer to *Section III - Trail Route* for a description of this proposed park). For most of this distance, the width of the buffer lands, the gradients and the vegetation (ruderal grasses) could accommodate a trail. However, there are a few sections where the public lands narrow to as little as five feet. As a result, it would not be possible to create a continuous trail wholly on existing public lands between Blossom Avenue and Santa Teresa County Park.

Where there is adequate width, the trail would be located at or near the same elevation as the backyards of the adjacent residences. The trail would have to hug the property lines to avoid cutting into the canal embankment. Additionally, many of these property owners have physically encroached into this public open space with gardens, dog runs, and informal patios.

Refer to *Section IV – Feasibility Analysis, Sub-section Land Use – Public Buffer Lands* for a more detailed description of the bufferlands.

Trail Design & Use

The development of future pathways and designated uses on these public lands would be determined as part of the park master planning process(es) that would occur as a separate project(s). In most cases, these lands are very small (less than five acres) and steep, lending themselves to passive types of park use and circular pathway systems within each parcel. Key elements that would need to be considered as part of this master planning process would include:

- ❖ The development of pathway systems that are ADA compliant. As these buffer lands are typically very steep, this will be major constraint.
- ❖ Realignment of existing pathway surfaces and widths that are not currently compliant.

- ❖ A determination of appropriate park/trail uses – Foothill Park does not currently allow bicycles.
- ❖ Respect for the environmental constraints of the site and development of mitigations if these sites are developed for public recreation (e.g. disturbance of burrowing owl habitat). It should be noted that mitigations for threatened and endangered species could be significant. For example, should burrowing owls be found within 300 feet of the project site, the recommended mitigation (per CDFG) is to 1) require construction to take place outside the breeding season (Feb 1 to Aug 31); and 2) follow current CDFG mitigations for habitat protection, which could result in the City being required to set aside as much as 6.5 acres of land per pair or unpaired resident bird in the local area or fund the acquisition of lands that protect a different population of burrowing owls. The specific methods and timing of project construction and habitat acquisition would need to be discussed with CDFG when an actual project is under consideration.
- ❖ Development of appropriate staging that will not be disruptive to the surrounding neighborhood residences.

Comparison with Alternative 1

A trail in such close proximity to the property lines could exacerbate concerns about privacy, security, noise and trespassing, as these lots have small backyards that are often visually open to these City lands. In addition, there are several sections in private ownership and a few sections where the public lands narrow to as little as five feet. In the constrained areas, the trail alignment would be subject to the CC&R development restrictions that were created to protect the canal and canal maintenance road embankment (refer to *Section IV - Feasibility Analysis – Land Ownership, Easements and Zoning and the Impacts on Trail Feasibility*). These conditions severely limit opportunities to create a continuous trail as proposed in this alternative. Trail development opportunities are further constrained by the physical characteristics of these buffer lands which include steep, narrow, unstable terrain, and sensitive biological resources including serpentine rock outcroppings, and suitable habitat for burrowing owl (Refer to *Section IV - Feasibility Analysis – Environmental Setting*).

From a policy perspective, this alternative would partially meet goals of creating a more “livable community” by providing opportunities for family oriented recreation close to home. It would not serve as the regional trail many of the local residents envisioned for the canal maintenance road. This alternative would not meet the City’s Greenprint strategies for creating a citywide network that would encourage alternative transportation modes. Nor would this route conform to the regional trail route identified in the City’s General Plan for this area.

**Alternative 5 –
Use of On-Street
Bicycle Routes & Sidewalks
to Connect Almaden Lake
City Park & Santa Teresa
County Park**

Alternative 5 - On-street Route Connecting Almaden Park & County Park
On-street bike and pedestrian route using Winfield Blvd., Coleman Road, Santa Teresa Blvd. and Bernal Road.

Primary Benefits

- ❖ Totally within the public right of way and could be implemented in the near term
- ❖ Direct connections to transit, enhance commute opportunities
- ❖ Implements Citywide Transportation Bicycle Network Plan and Juan Bautista de Anza National Historic Trail (bicycle route)

Primary Constraints

- ❖ Does not provide family-oriented recreation close to home
- ❖ Does not conform to the regional trail route identified in the City's General Plan
- ❖ Alignment would not resolve flooding and maintenance costs associated with canal infrastructure.

Community Support

At the April 23, 2003 community meeting:

- ❖ None of the community polled supported development of on-street bicycle routes and sidewalks to connect Almaden Lake City Park and Santa Teresa County Park as a viable alternative to the canal trail.

Trail Alignment

Under this alternative, pedestrian and on-street bicycle lanes (Class II) and routes (Class III) would be identified to provide a connecting route between Almaden Lake City Park and Santa Teresa County Park from major arterial roadways. The streets that would be used to make this connection would be (going from north to south) Winfield Blvd., Coleman Road, Santa Teresa Blvd. and Bernal Road. A bicycle - pedestrian route would not be pursued beyond Santa Teresa County Park. These travelways would be located totally within the public right of way and could be implemented in the near term. This alternative would enhance non-motorized commuting opportunities and would provide direct connections to transit. All or portions of this route are identified on the City of San José Bicycle Plan, and the Santa Clara County Bicycle Plan. This route is also identified as part of the Juan Bautista de Anza National Historic Trail bicycle alternative. Refer to *Appendix C - City of San José Trail & Bicycle Plans*.

Trail Design & Use

Passage along this route would be provided by a combination of Class II – Bike Lanes, Class III Bike Routes and sidewalks.

Class II – Bike Lanes are designated bicycle travel lanes within the roadway. Class III Bike Routes are signed routes indicating that bicyclists and motorists shall share the roadway.

Bike lanes and bike routes would be used in conjunction with sidewalks. Class III bike routes should be considered where there is a minimum vehicular travel width of 14' (4.3 m), Average Daily Traffic (ADT) less than 1000 vehicles, a peak hour flow less than 100 vehicles, and a traffic speed of less than 40 mph. Where vehicle speeds and volumes exceed this criteria, designated bicycle travel lanes within the roadway should be implemented wherever the available road right of way will allow.

The sidewalks that would be used in conjunction with the bicycle lanes and bicycle routes should conform to the latest *City of San José Department of Public Works Standard Details and Specifications for Public Works Construction*.

In conjunction with providing a continuous sidewalk system on both sides of the street to accommodate pedestrians along the entire route and restriping the roadways, the City should develop bicycle and pedestrian safety and interpretive programs. These should include:

- ❖ Developing appropriate bicycle and pedestrian safety programs to provide potential users with the skills needed to use high volume motorways such as Coleman Road and Santa Teresa Blvd. safely
- ❖ Implementing appropriate design standards to enhance the safety of the existing roadway system
- ❖ Working with the Juan Bautista de Anza National Historic Trail Coordinator to develop interpretive exhibits along the route thereby enhancing the users experience.

Comparison with Alternative 1

As this trail route would be located in its entirety within the public road right of way, this alternative would eliminate the challenges of acquiring private lands and negotiating easements to accommodate recreation. Similarly, as the route would be located within a constructed right of way, any of the design challenges associated with terrain, and environmental sensitivities would not need to be addressed. While this alternative would partially meet goals of creating a more “livable community” by enhancing opportunities for non-motorized commuting and connections to transit, it does not meet the goal of providing safe, family-oriented recreation (i.e. trail activities located away from motorized traffic) close to home. Nor does it conform to the regional trail route identified in the City’s General Plan for the area.

Considerations if Pursuing Implementation of Alternatives 1 & 2

Stormwater Drainage Infrastructure. The feasibility of developing the Alternatives 1 and 2 along the Coyote Alamos Canal is dependent upon the resolution of the stormwater drainage. Infrastructure solutions will need to address the potential for major landsliding and potential flooding of the residences below. Refer to *Appendix A - Santa Clara Valley Water District's Proposed Abandonment Study Maps & Cross Section* to view the existing stormwater connections and proposed modifications.

After the engineering challenges have been resolved, the City would need to secure the canal right of way for construction of engineered improvements and for recreational use. This would require the SCVWD and those private landowners that own portion of the canal in fee to convey the Coyote Alamos Canal in easement to the City.

Land Ownership, Easements and Use Agreements. Should the all of the private landowners and the City agree to these conditions, a number of possibilities exist for acquiring use of the Canal right of way. These include:

- ❖ The City and the SCVWD entering into a "joint use" agreement for the trail.
- ❖ The City securing an easement from the thirty-six private landowners for use of the access road for the dual purpose of maintaining the canal as a drainage facility and also for use as a recreational trail. The price of these easements would have to be negotiated with each landowner similar to the way right-of ways are acquired for such purposes as transmission lines. The existing easements would need to be renegotiated with all existing parties who hold the land in fee or easement on each parcel.
- ❖ The City purchasing the land from the individual landowners at a price based on fair market value as established by an MAI appraiser.

Each of these options would also require:

- ❖ Negotiation of an agreement by the City with the SCVWD to use the maintenance road as a public trail.
- ❖ Revisions to existing easements along the canal right of way that limit use to water conveyance and construction and maintenance of water conveyance facilities so that recreation uses could be accommodated.

According to assessors parcel maps, 77 parcels are contained within the right of way of the Coyote Alamos Canal. Of this total, the SCVWD holds 19 parcels in fee simple ownership (1.7 miles) and 41 easements across private lands (6 miles) and 6 easements across County Park lands (1 mile). Excluding City streets that cross the canal right of way, and one access easement, the City of San José does not own any of the right of way. Refer to *Appendix D - Land Ownership* for maps identifying public and private lands along the canal.

Considerations if Pursuing Implementation of Alternative 3

Ridgeline Land Use Rights - Acquisition or Easement. If the City were to pursue Alternative 3, they would have to accept the land acquisition costs and environmental and engineering challenges associated with developing a trail along portions the canal right of way as described in Alternatives 1 and 2. They would also need to secure the right of way along the ridgeline. This would involve securing easements or lands in fee for nine parcels of land similar to the options described above. These ridgeline properties are also identified on the maps in *Appendix D - Land Ownership*.

Use Agreement with PG&E. This alternative would also require the City to negotiate an agreement with PG&E to use their utility easements as a public recreation trail taking into account restrictions PG&E imposes on recreational activities located below their transmission lines and adjacent to their poles.

Engineering & Environmental Resource Challenges Associated with Implementation of Alternatives 1, 2 & 3

In addition to the land ownership challenges, there are several engineering challenges that must be solved to provide trail continuity for Alternatives 1, 2 and 3.

Hydrological, Geotechnical & Engineering Challenges
Geotechnical Challenges. The canal functions as a buffer between the foothill's unstable soils and the residential community. While the slide material is of such a nature that the trail would likely "catch" the material before it moved further downhill, it would require an on-going maintenance program to preserve a safe and accessible trail surface. Additionally,

removal of the canal (by filling) would effectively take away this buffer.

Hydrological Challenges. The canal provides a means for storm water runoff to be actively collected and transmitted to existing or new systems to minimize runoff into the contiguous residences and neighborhoods. Large amounts of unrestricted flow over the canal area have the potential to result in increased erosion and slides down hill of the canal. The foundations of nearby homes are also subject to impacts if saturation of the soils occurred.

Engineering Challenges. Trail construction would require further engineering. Additional collection systems would be required if the canal is filled. An assessment of the impact a new hillside runoff system would have on minimizing future landsliding within and below the canal right of way and potential flooding of the residences below would be required. Appropriate design solutions would need to be developed based on the findings from the engineering analysis to minimize the potential for future landsliding and flooding within the trail right of way and onto the residential properties located below the canal. At a minimum, the existing by-pass collection systems would require refurbishing and cleaning to allow them to function as originally intended.

Transportation Engineering Challenges

Street Improvements. Each of the street crossings will require site specific traffic analyses and engineering studies to develop appropriate design solutions. Potential traffic barriers to trail continuity are identified below.

- ❖ Winfield Blvd
- ❖ Miracle Mountain Drive
- ❖ Bernal Road
- ❖ Santa Teresa Blvd
- ❖ Union Pacific Railroad
- ❖ Monterey Highway.

Steps that would need to be taken to address the challenges associated with these road crossings include:

- ❖ Work with the City and County transportation engineers to develop appropriate pedestrian crossing enhancements for Winfield Blvd. and Bernal Road
- ❖ Develop an alternative route that does not cross Miracle Mountain Drive (see environmental challenges below)
- ❖ Develop final engineering feasibility designs for Santa Teresa Blvd. and Monterey Highway/Union Pacific Railroad.

Transit Agreements. Steps that would need to be taken to address the challenges associated with transit include the following:

- ❖ Obtain design review and permits for the Santa Teresa Blvd. crossing from the Valley Transportation Authority

(VTA) to ensure compliance with VTA bus and light rail system requirements

- ❖ Obtain design review and permits for the Monterey Highway/Union Pacific Railroad crossing from the Union Pacific Railroad (UPRR), California Public Utilities Commission (CPUC) and Caltrans, as this crossing would fall within all of these agencies' jurisdictions.

Funding. Construction of major trail infrastructure (e.g. bridges, signals) where the streets/railroad create barriers to trail continuity will require major capital funds.

Environmental Resource Challenges

Geographic Barriers. Geographic barriers will also require engineered design solutions and biotic and archaeological surveys, and potentially mitigation and monitoring plans to address sensitive environmental resource areas. Sections of the canal route that would require biotic, archaeological and historical analysis include:

- ❖ The gap between Miracle Mountain Drive and Almaden Lake City Park
- ❖ Gaps in the canal alignment within the County parklands
- ❖ The drainage east of Santa Teresa Blvd
- ❖ The gap at the eastern end of Tulare Hill (Also refer to traffic gaps - Union Pacific Railroad and Monterey Highway).
- ❖ Hillside areas of the Ridgeline Route should Alternative 3 be pursued.

Biotic Studies and Permit Requirement. Steps that would need to be taken to address the biotic resources associated with traversing the areas where there are discontinuous trail sections or new trail alignments requiring new trail construction include:

- ❖ Conduct protocol burrowing owl and Bay Checkerspot Butterfly biotic studies where the trail would need to traverse or circumvent major drainages and serpentine rock, as disturbance to these areas could represent a significant loss of sensitive wildlife habitat. Examples of these circumstances can be found at the terminus of Miracle Mountain Drive near the Santa Teresa Blvd. crossing, at the Union Pacific/Monterey Highway crossing, and along the ridgeline route where new construction would be required.
- ❖ Based on results of the biotic studies, obtain permits from federal and state regulatory agencies and develop appropriate mitigations for loss of any wetlands, riparian areas or serpentine soils. Mitigations would likely include replacement of similar habitat areas within the project vicinity.

Archaeological and Historic Studies. Steps that would need to be taken to address the cultural resources associated with traversing

the areas where there are discontinuous trail sections or new trail alignments requiring new trail construction include:

- ❖ Conduct pre-historic and historic studies where the trail would need to deviate from the canal or areas where there is no existing maintenance road.
- ❖ Based on results of pre-historic and historic studies, develop appropriate mitigations to protect archaeological and historical resources.

Refer to *Section IV- Feasibility Analysis, Appendix L - Traffic* and *Appendix K - Biotic Resources* for a more detailed description of each of these areas.

Considerations if Pursuing Implementation of Alternative 4

Covenants Codes and Restrictions (CC&Rs). If the City were to pursue Alternative 4, project implementation would be limited to the existing City/ SCVWD public lands. Since some of the land is under SCVWD ownership, the City would need to negotiate recreation use agreements with the SCVWD for these portions of the route. Trail construction within the narrow strips of private and public lands that links the larger open buffer park areas is not feasible because it would require modification of the canal maintenance road embankment. Disturbance to this embankment could result in catastrophic failure of the canal maintenance road and the canal with potentially disastrous effects on the residences located below the canal. Refer to *Figure 3 - Cross-section of Canal Showing Typical Geologic Conditions that Render Canal Soils Unstable* to view typical geological conditions that could contribute to potential canal failure. To protect the integrity of the canal structure, future park/trail development would need to comply with the CC&Rs that were put in place when residential developments were built along the base of the Coyote Alamos Canal. These CC&Rs addressed initial construction (e.g. grading and drainage improvements), as well as ongoing construction and maintenance activities. Restrictions on post construction activities relate to watering, and irrigation design. Within some of these open space parcels, the City would also need to address and rectify apparent encroachments from adjacent residences.

Traffic. Because development of Alternative 4 would not involve any street crossings, traffic-engineering challenges would be minimized.

Potential Impacts of the 1998SCVWD Canal Abandonment Plan. If the SCVWD were to pursue abandonment of the canal as described in *Appendix A - Santa Clara Valley Water District's Proposed Abandonment Study Maps & Cross Section*, the SCVWD would most likely be constructing earth berms on the

land between the canal and homes where protection from overland drainage is required. These berms would be constructed in areas where the slope of the hill is minimal to minimize the amount of grading required. In two instances, these berms would be located on City or County parkland. Therefore, the SCVWD would have to obtain an easement to construct and maintain these berms. Preparation of future park master plans for Foothills Park, Century Oak Park and the connecting public lands would need to address the status of the abandonment plan. If the SCVWD still intends to move forward with its proposal, the master planning process would need to address potential impacts on future park designs at the time the master plan(s) are prepared.

Considerations if Pursuing Implementation of Alternative 5

Near Term Solution. If the City were to pursue Alternative 5, the project would be implemented on existing public streets. Therefore, the City would not need to purchase land or easements from private parties. In addition, development of Alternative 5 would not involve any separated street crossings, nor would it impact any major drainages or serpentine areas. As such, the City could seek to implement this Alternative in the near term to improve non-motorized alternative transportation options.

Community Support. Completion of improvements recommended in description of Alternative 5 in this Section would implement a part of the City's bikeway plan (refer to *Appendix C - City of San José Trails & Bicycle Plans*). However, implementation of this alternative will not receive support from the community if these improvements are completed in lieu of developing an off-street trail. It is the community's preference to develop a trail route that would provide neighborhood serving public recreation that would take advantage of the rural open space character of the Santa Teresa Hills.

Resolution of Infrastructure Deficiencies. Alternative 5 would not resolve existing infrastructure constraints and associated flood and landsliding resulting from the existing conditions of the existing canal and connecting storm drainage system.

VI. Findings and Recommendations

Long-term Recommendations

Prior to completing any further study of a recreational trail along the Coyote Alamitos Canal the following actions are recommended:

- ❖ Modify the stormwater drainage system so that the City stormwater system is no longer integrated with the canal.
- ❖ Restructure the canal profile by: 1) abandoning and regrading the canal right of way to provide a wider trail surface area, eliminate steep drop offs, and minimize opportunities for catastrophic failure of the canal; and 2) constructing new drainage facilities to capture hillside runoff now contained in the canal.

Conclusions

In 2002, the City of San José recognized the recreation potential of the canal by amending the *General Plan - Scenic Routes and Trails Diagram* to add the existing Coyote-Alamitos Canal as a Trails and Pathways Corridor.

Private land ownership patterns and unstable geologic conditions which were presented in the *1989 Feasibility Study for Providing a Trail between Almaden Park and the Coyote Creek Park Chain* have not changed.

Ultimate implementation of this route will be dependent on development of new partnerships between agencies and organizations who have the engineering expertise and authority to address 1) flooding from hillside run off that flows into the canal during storm events, 2) stormwater infrastructure, and 3) periodic landsliding within the canal right of way.

Ultimate implementation of this route will be dependent on the willingness of the underlying fee owners to convey land in fee or easements for the development of a public recreation trail. Implementation of Alternative 4 is not recommended due to the severe constraints described in Sections IV and V.



Engineering - Alternatives 1, 2, 3. Conduct engineering design studies for the crossings at Santa Teresa Blvd., and at the Monterey Highway/Union Pacific Railroad to determine the feasibility of developing a trail between Santa Teresa County Park and the Coyote Creek Park Chain. These studies are needed to implement Alternatives 1, 2 and 3 (Supported by the community, April 2003).



Acquisition Alternative 3. Pursue opportunities to acquire and manage the east side of the Santa Teresa Hills as open space. Acquisition and management of open space needed to implement Alternative 3. (Supported by the community, April 2003).



Traffic Enhancements Alternative 5. Develop a signed pedestrian and bicycle network and safety program along Santa Teresa Blvd. between Almaden Lake City Park and Santa Teresa County Park. This program is needed to implement Alternative 5 - (not recommended by the community in lieu of an off-street trail, April 2003).

VI Findings & Recommendations

To make a determination whether to implement major capital projects, such as the Coyote Alamitos Canal, the City must carefully weigh a number of factors. These include: 1) the attractions and benefits of the project, 2) the constraints that could inhibit development; and 3) the costs of initial construction and long-term maintenance and operations. This section summarizes the benefits and constraints associated with developing a trail along the Coyote Alamitos Canal maintenance road and presents conclusions and recommendations for proceeding with this project.

Attractions & Benefits

- ❖ Virtually level surface and panoramic vistas
- ❖ Easy access from local neighborhoods, local and regional parks and regional trails
- ❖ Safe, off-street with easy access from residences to local schools, transit - bus and light rail - enhances commute opportunities
- ❖ Opportunities for family and school-oriented recreation / exercise / environmental education
- ❖ Consistent with the City's General Plan policies and *Greenprint's* vision for a more livable community
- ❖ Opportunity to form agency partnerships for the purpose of maintenance and patrol

Constraints That Could Inhibit Development

Private Ownership of Right of Way

- ❖ Majority of Canal is in private ownership
- ❖ Canal is constructed within easements granted to SCVWD
- ❖ SCVWD's easements are limited to..."*constructing, installing, repairing, reconstructing, maintaining and operating a canal and pipeline for the transmission of water*"
- ❖ Landslides potentially pose a significant geological constraint

Engineering Challenges

- ❖ Flooding from hillside run off that flows into the canal during storm events
- ❖ Canal and City Stormwater infrastructure connections and interdependence
- ❖ Periodic landsliding within the canal right of way
- ❖ Crossings at existing roads and railroads represent special safety concerns and engineering design challenges
- ❖ Potential hazards with high voltage electrical currents and electric and magnetic field exposure (EMF) associated with PG&E lines

Environmental Constraints

- ❖ Potentially sensitive biotic and archaeological/historical resources that could be impacted by new trail construction and / or development of new trail routes
- ❖ Potential water quality impacts from erosion of improperly designed or constructed trail segments

Costs of Initial Construction & Long-term Maintenance & Operations

Major Capital Funding

In addition to the costs of trail construction there would be major costs for:

- ❖ Land acquisition
- ❖ Construction costs to modify stormwater drainage system, and for reducing potential for ongoing flooding and landsliding
- ❖ Resource mitigation and monitoring plans for areas of new construction
- ❖ Development of landscape buffer along canal route

Maintenance Obligations

- ❖ Repair damage from periodic landsliding and flooding

Attractions & Benefits

The Coyote Alamos Canal maintenance road could provide several benefits as a pedestrian/bicycle/equestrian trail. With its nearly level, compacted aggregate surface, and proximity to local neighborhoods, it could be easily accessed from many locations within the established local residential community of 88,000 people. *Map 2 – Regional Context Map* identifies the key parks, trails and transit networks that could be linked to the Coyote Alamos Canal trail route.

Regional & Local Recreational & Educational Benefits

The trail route could offer regional and local recreational benefits. The canal traverses three regional parks – Almaden Lake City Park, Santa Teresa County Park and the Coyote Creek Park Chain, two neighborhood parks – Foothill and Century Oaks City Parks, and two regional trails – The Bay Area Ridge Trail and the Juan Bautista de Anza National Historic Trail.

The trail could provide safe travel routes to Bernal Intermediate School, San Anselma Elementary School, Sakamoto Elementary School, Blossom Valley Elementary School, and Baldwin Elementary School. It could also be used as a component of the schools' environmental science education, historical education and physical education programs.

Additionally, the raised elevation of the canal offers panoramic views of the open terrain of the immediately adjacent hills, the valley below, and the mountain ranges in the distance.

Transportation Benefits

A trail along the canal maintenance road could offer transportation benefits by providing connections to the Almaden Light Rail/Bus Transit Station, the VTA bus system, and the City bicycle network. Additionally, with short spur connections along residential streets, children could conveniently access several elementary and junior high schools that are located near the

canal. These same travel connections would also offer students and teachers access to environmental and physical education experiences associated with the canal corridor.

Policy Consistency

The Coyote Alamitos Canal's proximity to local neighborhoods, and its attraction to trail users as a recreation and transportation resource, is consistent with the City's General Plan policies and meets many of the goals for trails established in the *Greenprint's* vision for a more livable community. Refer to *Section IV – Feasibility Analysis – Subsection Consistency with Current City and County Trail Plans and Agency Requirements* for a more in-depth discussion of relevant plans and policies.

Constraints & Obstacles

This section summarizes the most significant constraints relative to constructing and using a trail along the canal. These constraints include: land ownership, status of existing infrastructure, cultural, biological, and visual resource impacts; public health, safety and security impacts; and the associated issues of liability and public will/or demand for the trail. Overcoming and/or mitigating each of these factors has significant financial, environmental, and political implications.

Land Ownership & Land Use

Thirty-six private parties, representing 98% of the proposed alignment along the base of the Santa Teresa Hills and 55% of the alignment on Tulare Hill hold 48 properties within the canal right of way. The canal was constructed on these private lands within easements negotiated between the landowners and the SCVWD. These water infrastructure easements are very restrictive as to the allowed uses. To construct a trail along the canal maintenance road, the City would need to purchase the land in fee or renegotiate the easements from each landowner. Therefore, landowner support for the trail is a key component of the feasibility of the trail.

Refer to *Appendix D - Land Ownership* to view ownership patterns along the canal.

Water Conveyance

Use of the canal is also a factor. While the canal is no longer used for water conveyance, two portions of the canal between Snell Road and Cahalan Road and between Cahalan Road and Miracle Mountain Drive are connected to the City storm drains. This means that excess runoff that flows into the canal from the hillsides above is released into various subsurface drainage pipes that form the City's storm water system. As a result, the canal must be retained and maintained as long as it serves this citywide drainage function. While this is an imperfect system that results

in periodic flooding because hillside runoff can overwhelm the City's existing drainage system, elimination of the canal without replacement of a new hillside drainage system could result in more catastrophic flooding during the winter rainy season.

Refer to *Section IV – Feasibility Analysis- Subsection – Land Ownership, Easements and Zoning and the Impacts on Trail Feasibility* for a more in-depth discussion of land ownership. Refer to *Section IV – Feasibility Analysis* subsections on canal use and operations for a discussion of the Canal and current management practices.

Public Will

Twenty-two private parties own portions of the canal right of way in fee title. Most of these parcels are ranchlands that extend up from the canal into the Santa Teresa Hills. There are also 171 properties whose rear yards adjoin the canal. These parcels include 16 townhouses that function under the authority of one homeowners association. Additionally, there are 122 residences (including one cluster of 13 townhouses) whose rear yards are physically separated from the canal by a narrow buffer of public or private open space. These properties' rear yards (and frequently the rear facades of the residences) are easily visible from the canal. These adjacent residential properties could potentially benefit from having easy access to the trail, which is demonstrated by the informal entry points from many of the residents' backyards. However, a majority of the single-family residential properties may also experience a reduction in privacy due to the raised elevation of the canal maintenance road where the result is visual access into the adjacent residential properties. Many of these adjacent residents have expressed their concerns regarding privacy and security over the last twelve years. Without community support (especially the support of the 315 landowners and adjacent neighbors), it would be very difficult for the City to complete design and construction of the trail. Without public support for the project, it would also be difficult to secure the major funding that would be required to purchase the land, restore existing stormwater infrastructure, reduce flooding and landsliding hazards, and mitigate environmental impacts resulting from new construction. Refer to *Appendix B - Meeting Summary of April 23, 2003 Community Meeting Regarding a Trail along the Coyote Alamitos Canal*.

Geologic Constraints

Landslides potentially pose a significant geological constraint to developing the public recreation trail along Coyote Alamitos Canal. Landslides could result in failures of the canal, which might impact the public health and safety of trail users and adjacent property owners. These concerns were described as the major limitation to the development of a public recreation trail in the *Feasibility Study for Providing a Trail between Almaden Park and the Coyote Creek Park Chain* completed by Earth

Metrics in 1989. The development of any such recreational trail should be carefully designed to minimize the potential for landslides. Geologic site conditions are summarized in *Section IV – Feasibility Analysis- Subsection – Environmental Setting* and discussed in greater detail in *Appendix J - Geology*.

Hydrological Constraints

The canal provides a means for storm water runoff to be actively collected and transmitted to existing or new systems to minimize runoff into the contiguous residences and neighborhoods. Large amounts of unrestricted flow over the canal area have the potential to result in increased erosion and slides down hill of the canal. The foundations of nearby homes are also subject to impacts if saturation of the soils occurs. Minimally, the existing by-pass collection systems would require refurbishing and cleaning to allow them to function as originally intended before the canal alignment could be pursued as a public recreation trail. Routine maintenance of the trail and the drainage system would be required. Geological and hydrological constraints associated with the canal modifications are discussed in greater detail in *Section IV – Feasibility Analysis- Subsection – Engineering & Environmental Resource Challenges Associated with Implementation of Alternatives 1, 2 & 3*

Traffic Constraints

Also summarized in *Section IV – Feasibility Analysis- Subsection – Environmental Setting* and discussed in greater detail in *Appendix L* are the existing roads and active rail road line that create barriers to trail continuity. Refer to *Map 7 - Gaps to Canal Continuity* to identify where these intersecting roads and railroad tracks occur. These barriers represent special safety concerns and engineering design challenges. These constraints are most critical at Santa Teresa Blvd. and Monterey Highway. In these locations, the trail alignment is proposed to cross each of these divided highways where there are no existing intersections. The trail is also proposed to cross an existing rail line parallel to Monterey Highway and a future light rail line within the Santa Teresa Blvd. right of way. Due to the complexity of these crossings and the multiple jurisdictions having responsibility for these transportation corridors, development of design solutions would require coordination and permits from the agencies that regulate, build and maintain the roads and railroads.

In addition to these two "mid-block" roadway crossings, design solutions will also be required for the trail crossings at Winfield Blvd., Miracle Mountain Drive and Bernal Road.

Less critical, infrequent trail/motorized traffic conflicts may also occur where private roads used to access the ranchlands within the Santa Teresa Hills intersect the proposed trail route.

Potential Resource Impacts

Additionally, potential conflicts between trail users and periodic Santa Clara Valley Water District maintenance activities could require temporary trail closures as long as the Water District retains responsibility for the canal right of way.

P G&E Transmission Line

The California Public Utility Commission - Energy Division regulates all PG&E lines, towers, and substations. Therefore, they will need to review and approve those trail sections that cross or travel under the transmission lines and towers to ensure that trail users will not come in contact with hazards associated with the power facilities. Hazards associated with the PG&E lines, and towers, could include actual contact with high voltage electrical currents as well as, electric and magnetic field exposure (EMF). However, anti-climbing devices could be installed which would limit the potential to come in contact with electrical lines. Additionally, since trail use would be transitory in nature, not stationary, exposure of EMFs would be of short duration and would not be considered a significant constraint to trail development. Refer to *Section V – Alternatives – Subsection Alternative 3* for a discussion of where the trail is proposed to parallel and cross the PG&E transmission lines.

Maintenance

Routine maintenance of the trail and the drainage system would be required to enable drainage infrastructure to continue to function. The cost of maintaining the trail and drainage collection system described above would significantly exceed the costs currently being realized by the Water District. This is due to the added difficulty of cleaning inlets and drainage pipes, and trail surface maintenance, as compared to the currently simple act of removing material from the canal.

Biotic Resources

Discontinuous sections of the existing canal maintenance road could result in significant impacts to biotic resources where new trail construction or development of new trail routes will occur in sensitive habitat areas, or where officially protected species may reside. Preliminary investigations indicate that there may be areas adjacent to the canal and within the discontinuous section of the alignment that provide suitable habitat for endangered or threatened species including the Burrowing Owl and the Checkerspot butterfly. Refer to *Appendix K - Biotic Resources* for a discussion of the potential to encounter suitable habitat for endangered or threatened species along the trail route.

Where there are potential impacts to wetlands and endangered or threatened species, permitting may be required through the U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife

Service (USFWS) and/or California Department of Fish and Game (CDFG). This permit process would require detailed field surveys, and where they exist, wetland delineations and long-term mitigation monitoring. If any alterations are proposed to any of the drainages, a streambed alteration permit would be required from the CDFG. The CDFG would also be responsible for overseeing protocol Burrowing Owl studies. As the Checkerspot butterfly is federally listed, USFWS would oversee Checkerspot butterfly surveys.

Water Quality

Proposed new trail construction required to complete discontinuous sections and/ or new routes (Refer to *Map 3 – Alternatives Considered in this Study*) considered could impact water quality from erosion of improperly designed or constructed trail segments. The National Pollutant Discharge Elimination System (NPDES) permitting program is designed to monitor and control pollutants resulting from stormwater runoff and runoff from these construction sites. If the trail were constructed, the City would have to develop and implement a Storm Water Pollution Prevention Program (SWPPP) describing how it would mitigate stormwater discharges. In California, NPDES permits are issued by the SWRCB through the Regional Water Quality Control Board.

Prehistoric & Historic Cultural Resources

As described in the *1992 Santa Teresa County Park Master Plan*, there are significant historic and prehistoric sites containing artifacts dispersed throughout the Santa Teresa Hills. Therefore, there is a strong potential for proposed new trail construction to adversely impact prehistoric and historic resources. Should implementation of any trail involving new construction in the Santa Teresa Corridor be pursued, a cultural resource assessment of the alignment would need to be prepared. The purpose of such an assessment would be to determine potential impacts to these resources from the construction and use of the trail and to develop, as appropriate, mitigation measures and long-term monitoring. Typically, the first phase of a cultural resource assessment is a surface reconnaissance. If cultural resources were discovered during the surface reconnaissance, then further studies would be required. A discussion of each of the eras represented within the Santa Teresa Trail Corridor is discussed in greater detail in *Section IV – Feasibility Analysis Subsection – Environmental Setting*.

Consideration of Initial Construction & Long-term Maintenance & Operations

Development of a trail within the Coyote Alamitos Canal would be a major capital project requiring significant funds to address the constraints presented above. Based on the feasibility analysis summarized above and described in greater detail *Section IV – Feasibility Analysis*, initial capital requirements would require funding to:

- ❖ Acquire land and easements (potentially from unwilling property owners)
- ❖ Develop engineering solutions for constructing stormwater drainage improvements to collect hillside runoff and reduce the potential for flooding and landsliding
- ❖ Develop engineering solutions for constructing the Santa Teresa Blvd. and Monterey Highway street/rail crossings
- ❖ Mitigate potential biotic and archaeological resource impacts during construction and provide long-term monitoring as appropriate to establish new habitats and/or protect existing sensitive resources where there is trail activity
- ❖ Design and implement a landscape buffer between the canal and the canal maintenance road (*Refer to Section V – Alternatives Considered to Accommodate Recreation* for a discussion of recommendations for mitigating perceived loss of privacy/security of adjacent residences).

In addition to routine maintenance and operational costs, it is anticipated that the City would also incur additional costs to repair damage from periodic landsliding and flooding resulting from the many landslides that exist along the canal that have been activated by grading and other urban development activities. (Refer to *Appendix J - Geology* for a discussion of recent geologic activity and its causes).

The Santa Clara Valley Water District estimates that this repair work currently costs the Santa Clara Valley Water District an average of \$50,000 to provide on-going maintenance. The District's records indicate that actual maintenance costs have ranged between \$15,000 and \$60,000 per year over recent years. In the 5-year period from 1999 to 2004, a total of 550 CY (cubic yards) of debris was removed from the canal. Since maintenance is based on reaction to specific events or changed conditions, rather than a defined maintenance plan, this cost varies year to year. In addition, efforts have focused almost exclusively on

keeping the canal clean and the maintenance road serviceable. As a result, some of the drainage facilities mentioned earlier have been rendered ineffective due to blocked inlets and some have even been removed or abandoned. Refurbishing and cleaning the existing stormwater collection system and /or maintaining new structures would be an ongoing maintenance costs over and above routine maintenance expenditures.

Recommendations

Steps Recommended for Completion before Proceeding with Development of the Coyote Alamitos Canal Trail

- ❖ Modify the stormwater drainage system so that the City stormwater system is no longer integrated with the canal.
- ❖ Restructure the canal profile by: 1) abandoning and regrading the canal right of way to provide a wider trail surface area and eliminate steep drop offs; and 2) construct new drainage facilities to capture hillside runoff now contained in the canal
- ❖ Conduct traffic, engineering and environmental studies to determine feasible locations and designs for crossing Santa Teresa Blvd., Monterey Highway and the Union Pacific Railroad tracks
- ❖ Pursue opportunities to acquire the east side of the Santa Teresa Hills as open space
- ❖ Develop a signed pedestrian and bicycle network and safety program along Santa Teresa Blvd. between Almaden Lake City Park and Santa Teresa County Park -(not recommended by the community, April 2003).

Engineering Challenges & Study Recommendations

There are several actions that the City should consider completing before the City of San José PRNS proceeds any further with the development of a recreational trail along the Coyote Alamitos Canal. These include:

1. Stormwater Drainage System. Modify the stormwater drainage system so that the City stormwater system is no longer integrated with the canal. This will be a monumental task. By itself it may be as large a project, or larger, than the development of the trail. – Responsibility Santa Clara Valley Water District / City of San José.

The City of San José PRNS should not engage in the development of a recreation trail with the Coyote Alamitos canal right of way until the stormwater drainage infrastructure has been resolved. Resolution of this system will need to be addressed jointly by the City of San José and the Santa Clara Valley Water District. This partnership is needed because portions of the canal are serving both jurisdictions directly or incidentally by conveying stormwater runoff from the adjacent hills into the City's stormwater infrastructure system.

Rationale

To enhance recreation opportunities, the existing drainage system will need to take into consideration other methods of conveying stormwater, such as enclosed channels or pipes. New construction will need to take into account the instability of the soils in the Santa Teresa Hills, and will likely require the construction of retaining walls, earthen berms and other erosion control measures within the canal right of way to redirect water and minimize future erosion, landsliding and flooding. Refer to *Appendix A - Santa Clara Valley Water District's Proposed Abandonment Study Maps & Cross Section* for plans that identify the proposed location of retaining walls, berms etc.

2. Restructure the Canal Profile. Once the stormwater drainage system has been modified so that it is no longer integrated with the canal, abandon and regrade the canal right of way to accommodate a public recreation trail. Regrading or “removing “ the existing Canal means filling. This project could require a massive quantity of fill, which will be very expensive. It also may be very extremely difficult to attain sufficient quantities of suitable materials.

The second option for regrading and filling the canal to accommodate the trail could involve removing the soil from the existing maintenance road and using that to fill in the canal. This would lower the elevation of the access road/ trail resulting in a fairly wide flat area. This widened area could be planted with screening trees or fenced. Under this scenario a swale could be constructed at the base of uphill slope to collect and direct drainage.

Alterations to the existing canal profile will also require the construction of new drainage facilities if hillside runoff is to be separated from City storm drainage system. The new trail should be designed to minimize the risk of canal failure as this could potentially result in major landsliding and flooding.

While the abandonment plans will be the responsibility of the SCVWD, the City of San José will need to be involved in the development of a grading plan that will accommodate the trail. If the SCVWD initiates abandonment and restructuring of the Canal profile, the City could partner with them to look at opportunities for design of a new “canal” profile that would incorporate a recreational trail. This new profile could be used to create trail linkages between public parklands and to develop a trail right of way that would provide appropriate buffers between the trail and the residences below the alignment.

Rationale

As early as January 1976, the SCVWD had identified several problems with the canal in their report entitled, *The Coyote Alamos Canal Landslide Investigations*. These included:

- ❖ Many existing landslides along the canal
- ❖ Portions of the old landslides that have been activated by grading and other urban development activities
- ❖ Presence of "creep" along the entire alignment
- ❖ Increased potential for landsliding in areas where grading has been done.

This investigation noted that the greatest potential for damage due to landslides would be during a very strong earthquake and under saturated conditions. *Appendix A - Santa Clara Valley Water District's Proposed Abandonment Study Maps & Cross Section* describes District's abandonment plans in greater detail.

In 1983 and 1998, the Santa Clara Valley Water District developed preliminary concepts for abandoning a significant portion of the canal. This concept included regrading the site so that it would conform to the natural contours of the surrounding hills, and eliminating the maintenance road. Eliminating the maintenance road could also constrain potential opportunities to develop a trail in the future. This report's conclusion is based on this abandonment plan and several Santa Clara Valley Water District studies that evaluated the condition of the canal and developed various scenarios for terminating their jurisdiction over the canal.

It probably would be best for the Santa Clara Valley Water District to take the lead on abandonment and restructuring the canal right of way. The canal is wholly under their jurisdiction, and they have the expertise to address the hydrological and geotechnical issues that could result from abandoning and reconfiguring the canal. It would be best for the City not to pursue development of a public recreation trail within the canal right of way as long as the canal structure is in place, and there are concerns with the canal's stability.

Possible Future Study Routes

Given there are severe constraints associated with developing a trail within the Coyote Alamos Canal right of way as summarized above and described in greater detail in *Section IV – Feasibility Analysis of Alternative 1*, additional alternatives were also considered. These alternatives focused on providing recreation opportunities within the Santa Teresa Hills Corridor away from the canal right of way. One alternative is located along the Santa Teresa Hills ridgeline and one alternative wholly on City streets. The following discussions provide

recommendations for proceeding with development of pedestrian/bicycling facilities within the Santa Teresa Trail Corridor that do not require resolution of the engineering challenges associated with correcting the stormwater drainage system and restructuring the canal profile.

1. Traffic Studies. The City could conduct traffic, engineering and environmental studies for Santa Teresa Blvd. and Monterey Highway and coordinate with the transportation agencies that regulate, build and maintain the roads and railroads. The focus of these studies would be to determine feasible locations and designs for crossing Santa Teresa Blvd., Monterey Highway and the Union Pacific Railroad tracks.

Rationale

Three of the project alternatives (Alternatives 1, 2, and 3) studied require a safe crossing of Santa Teresa Blvd. and the Monterey Highway/Union Pacific Railroad. No matter which of these alternative trail routes are ultimately developed (including the canal alignment), crossing these highways and the railroad are MAJOR engineering issues that must be resolved to create future connections between the Coyote Creek Park Chain and the Santa Teresa Hills. Therefore, it is recommended that the City conduct additional focused traffic, environmental and engineering studies to determine the most feasible methods and locations to surmount these barriers so cross-city recreational links can be provided.

By focusing on a broader trail corridor between the Coyote Creek Park and Santa Teresa County Park, a viable trail alignment may be established that will close a significant gap in the study area. Closing this trail gap would help to meet goals of regional connectivity and could provide a connection between the Coyote Creek Trail and the Calero /Alamitos Creek Trail (south end) via Santa Teresa County Park. It could also provide a cross valley alignment for two regional trails, the Bay Area Ridge Trail and Juan Bautista de Anza National Historic Trail. If feasible alignments can be determined for these crossings, then the City can move forward with the preparation of a master plan and design development drawings for this portion of the study area in the future. Challenges associated with these crossings are described in *Section V - Alternatives Considered for Accommodating Trail Use within the Study Area*. Community support for this recommendation is provided in *Appendix B - Meeting Summary of April 23, 2003 Community Meeting Regarding a Trail along the Coyote Alamitos Canal*.

2. Ridgeline Route. The City, in partnership with the Santa Clara County Open Space Authority and other land trust

organizations, could pursue opportunities to acquire the east side of the Santa Teresa Hills as open space.

Rationale

Acquisition of these lands as open space would be consistent with goals and policies set forth in the *Santa Clara County 2020 Plan* and the *Santa Clara County Open Space Authority's Five Year Acquisition Plan*. If this land were to be purchased in fee, or become permanent open space under various conservation easement options, there may be opportunities for the public recreation that could be managed wholly or in part by City of San José. This scenario is described more fully in *Section V - Alternatives Considered for Accommodating Trail Use within the Study Area - Alternative 3*. Community support for this recommendation is provided in *Appendix B - Meeting Summary of April 23, 2003 Community Meeting Regarding a Trail along the Coyote Alamosos Canal*.

3. Pedestrian and Bicycle Network. The City could develop a signed pedestrian and bicycle network and safety program along Santa Teresa Blvd. between Almaden Lake City Park and Santa Teresa County Park as described in *Section V - Alternatives Considered for Accommodating Trail Use within the Study Area - Alternative 4*.

Rationale

Development of this alternative would enhance pedestrian and bicycling opportunities within the Santa Teresa Trail Corridor. It would also be consistent with the City's *Transportation Network* and the *Juan Bautista de Anza National Historic Trail*. However, this alternative received no public support at the April 23, 2003 Community meeting as a viable alternative to a canal trail. Refer to *Appendix B - Meeting Summary of April 23, 2003 Community Meeting Regarding a Trail along the Coyote Alamosos Canal*.

Conclusions

Conclusions

- ❖ In 2002, the City of San José recognized the recreation potential of the canal by amending the *General Plan - Scenic Routes and Trails Diagram* to add the existing Coyote-Alamitos Canal as a Trails and Pathways Corridor.
- ❖ Private ownership patterns and unstable geologic conditions have not changed in the intervening years since the *Feasibility Study for Providing a Trail between Almaden Park and the Coyote Creek Park Chain* was completed in 1989.
- ❖ Ultimate implementation of this route will be dependent on development of new partnerships between agencies and organizations who have the expertise and authority to address the unique issues associated with this trail route.
- ❖ Filling in the canal and constructing a replacement collection and transmission system is technically feasible, but would require significant resources to design, construct and maintain. The analysis/design effort would need to consider establishing localized retention systems to replace the function of the existing canal. The analysis would need to assess the capacity of the City system to transmit the calculated runoff, as well as the maintenance requirements of the facilities planned.
- ❖ In addition to the engineering aspects, land acquisition (including easements) would be required as the canal passes through private property.
- ❖ As new construction would be required in areas known to contain sensitive cultural resources and conditions suitable to sustain listed threatened and endangers species, regulatory approvals would likely be required.

The City of San José Parks, Recreation and Neighborhood Department of Services (PRNS) is in the business of providing recreation services and facilities that enhance the community quality of life. Detailed policy direction governing the Department's long term park and trail development is set forth in the San José 2020 General Plan. These policies direct PRNS to facilitate a citywide trail network that encourages alternative transportation modes and provides access to City and regional recreation facilities to meet the City's vision of the future. In 2002, the City of San José amended the *General Plan - Scenic Routes and Trails Diagram* to add the existing Coyote-Alamitos Canal as a Trails and Pathways Corridor.

However, while many City policies and environmental regulatory agencies have changed over the last fourteen years, ownership patterns and geologic conditions have not changed in the intervening years since Earth Metrics completed the *Feasibility Study for Providing a Trail between Almaden Park and the Coyote Creek Park Chain* in 1989. Nor have the overall cumulative impacts and the resulting burdens on the City lessened. For all of these reasons, this report concurs with the findings of the 1989 Earth Metrics report, which concluded that *"the City's first priority in providing a recreational trail along the canal should be in not exposing itself to unnecessary liability"*

claims in acquiring portions of the canal that may be susceptible to catastrophic failure.”

Maintaining the current configuration of the canal, which is a former water conveyance facility, may present some difficult and unique problems for the City. The City will need to carefully consider these challenges in developing this recreation amenity. To avoid many of the issues addressed in this report, the City may want to route the trail in more stable conditions away from the canal where possible to do so. Where it is not possible to route the trail away from the canal, the City must look for ways portions of the canal could be incorporated into the Santa Teresa Corridor Trail. This route should look to provide the benefits of the canal alignment that regularly attracts trail users, while minimizing the concerns addressed in this report. To accomplish this task, the City will need to develop new partnerships with agencies and organizations who have the expertise and authority to address the unique issues associated with this trail route.

VII Glossary

VII Glossary

List of Terms & Acronyms

There are numerous acronyms used throughout this Feasibility Study. Following is a list of these acronyms and a translation of the full term.

| Acronym | Full Term Name |
|----------------|---|
| ADA | Americans with Disabilities Act |
| APN | Assessor's Parcel Maps |
| APU | Arterial Primary Urban (road) |
| BAC | Bike Advisory Committee |
| BMP | Best Management Construction Practices |
| cfs | Cubic feet per second |
| Caltrans | California Department of Transportation |
| CC&Rs | Covenants Codes and Restrictions |
| CDFG | California Department of Fish and Game |
| CNDDB | California Natural Diversity Data Base |
| CNPS | California Native Plant Society |
| CPUC | California Public Utilities Commission |
| EIR | Environmental Impact Report |
| EMF | Electric and Magnetic Field Exposure |
| EPA | Environmental Protection Agency |
| FEMA | Federal Emergency Management Agency |
| HDM | California Highway Design Manual |
| NPDES | National Pollutant Discharge Elimination System |
| PRNS | (City of San José) Parks Recreation & Neighborhood Services Department |
| RWQCB | Regional Water Quality Control Board |
| SCCOSA | Santa Clara County Open Space Authority |
| SCVWD | Santa Clara Valley Water District |
| SWPPP | Storm Water Pollution Prevention Plan |
| SWRCB | Stormwater Regional Control Board |
| TAC | Technical Advisory Committee |
| UPRR | Union Pacific Railroad |
| USACOE | US Army Corps of Engineers |
| USFWS | United States Fish and Wildlife Service |
| VPH | (Traffic) Volume per Hour |
| VTa | Valley Transportation Authority |

Trail & Canal Design/Environmental Terms

This Feasibility Study also includes several terms that related to the design of the existing canal and the proposed trail. Following is a list of these terms and their meanings.

| | |
|-----------------------|--|
| ADA Compliant | Trails designed to accommodate the needs of all individuals, including those who have limited mobility and/or skills. Factors that are considered include trail length, steepness, cross-slope, width, surface type, obstacles or other hazards. |
| Berm | A mound or ridge of packed earth or rocks along on the downside of the canal designed to direct the flow of water and minimize flooding below the mound. |
| Creep | A process in which soil is eroded (usually by water) and displaced slightly downhill. |
| Landslide | A rapidly moving, shallow slope failure of soil and surficial materials triggered by the accumulation of water (storm runoff) in the soil profile. Commonly known as a landslide or mud slide. |
| Drainage | Refers to the movement of water either onto, across, under, along, or around the canal/trail. |
| Drainage, Surface | Water movement on the surface of the ground, typically caused by storm runoff. |
| Embankment | To define, confine, support, or protect a trail/roadbed with a bank of earth or stone |
| Endangered Species | Plant or animal species included on the state or federal list of endangered species and protected by the federal Endangered Species Act or the California Endangered Species Act. |
| Ecotones | An intermediate habitat between two adjacent communities. |
| Erosion | The detachment and removal of soil particles. The process of wearing away or gradually destroying by abrasion. |
| Grade | The steepness of a slope or the trail tread as it ascends or descends. Often expressed as a percentage (feet change in elevation for every 100 feet measured in a horizontal plane). |
| Grade, Maximum | The steepest grade found on any part of a trail. |

| | |
|-------------------|---|
| Mesic Conditions: | Moist physical conditions, either perennial or intermittent. |
| Surveys, Biotic | Pre-construction biotic field studies that are conducted to verify that that either there are no sensitive species or to flag the sensitive area and/or reevaluate timing of work prior to commencing any construction activities to avoid impacting sensitive plant or animal species that are identified during the survey. |
| Sensitive Species | Any plant or animal species that is included on a list of species which is known or suspected to be declining in number. Such lists include (but are not limited to) those posted by the state or federal government for species that are endangered, threatened, protected, of concern, or fully protected, and the Inventory of Rare and Endangered Plants by the California Native Plant Society. |
| Serpentine | Soil type derived from ultramafic rock which has low nutrient value and often supports an assemblage of rare plant and insect species. |
| Side Slope | The slope of the hillside. Trails as they climb, cross the side slope of the hill. The slope to either side of a hillside trail. |
| Siphons | A depressed portion of a sewer or drainage pipe below the hydraulic grade line (normal water level) used to pass flows under obstructions such as roadways. |
| Staging Area | The start or end of a trail often accompanied by various public facilities, such as directional and informational signs, parking lots, restrooms. |
| Take | Any action which may result in harassing harming, pursuing, hunting, shooting, wounding, killing, trapping capturing or collecting a federally listed, endangered species of wildlife or attempting to engage in such conduct. Federal regulations have broadened this definition to include significant habitat modification or degradation where it actually kills or significantly impairs essential behavioral patterns, including breeding, feeding or shelter |

(50 CFR Section 17.3). Such action taken without a permit is subject to criminal penalties under the Endangered Species Act.

Threatened
Species

Plant or animal species included on the federal list of threatened species and protected by the federal Endangered Species Act.

VIII References

VIII References

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Persons Contacted

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Sue Tippets

Gerry Uenaka

Ryan White

Valley Transportation Authority

Kermit Kuff

Union Pacific Railroad

Patrick Kerr

Community Input

- April 23, 2003 community meeting
- Written correspondence including letters from neighborhood associations and from community members having fee ownership on parts of the canal
- An internet Webb page established by Community members of the East Santa Teresa Foothills Area

Consultant Team

AeroGeodetic Corporation

Amphion - Julie Bondurant, Cheryl Miller

Biotic Resources – Kathy Lyons

Cypress Environmental & Land Use Planning – Kim Tschantz

Dana Bland & Associates - Dana Bland

Higgins Associates - Ying Smith, Heba El-Guendy

Nolte - Doug Aylsworth, Marta Kozera, Lorina Paun, Christopher Metzger, Rodriquez

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Coyote Alamos Canal / Santa Teresa Trail Corridor

Appendix A
Santa Clara Valley Water District's
Proposed Abandonment Study Maps &
Cross Section

Appendix A

Santa Clara Valley Water District's Proposed Abandonment Study Maps & Cross Section

Earlier SCVWD abandonment studies included two scenarios. One called for abandoning the canal, filling the channel, and regarding the right of way to conform the existing hill. The second scenario called for filling the channel and regrading the right of way to accommodate a recreation trail. The attached figures show the Santa Clara Valley Water District's Proposed Abandonment Plans.

The maps included in this appendix identify the locations where the SCVWD proposed to:

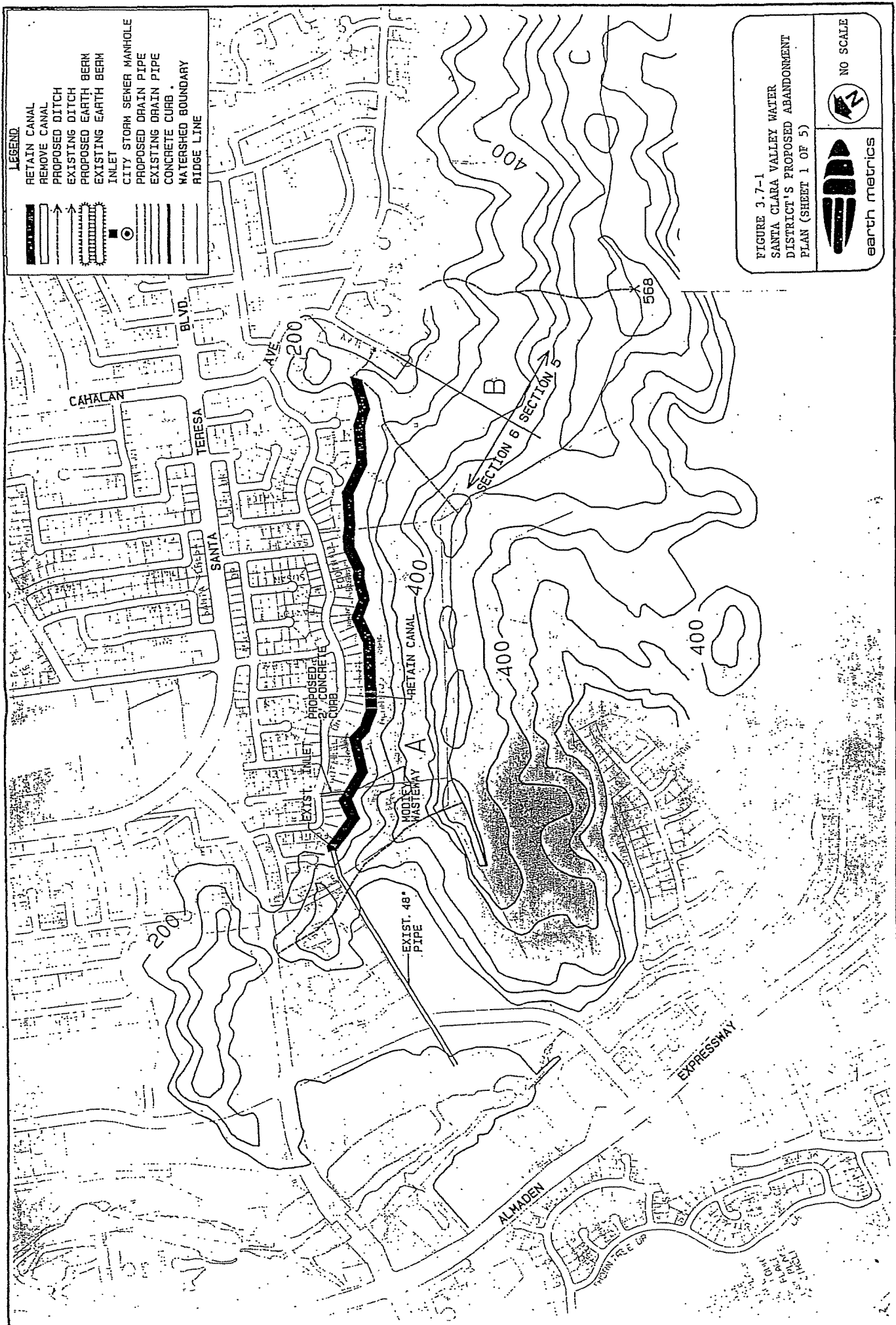
- ❖ Retain the existing Canal
- ❖ Remove the existing Canal
- ❖ Create Earth Berms
- ❖ Incorporate the hillside runoff into existing and new pipes

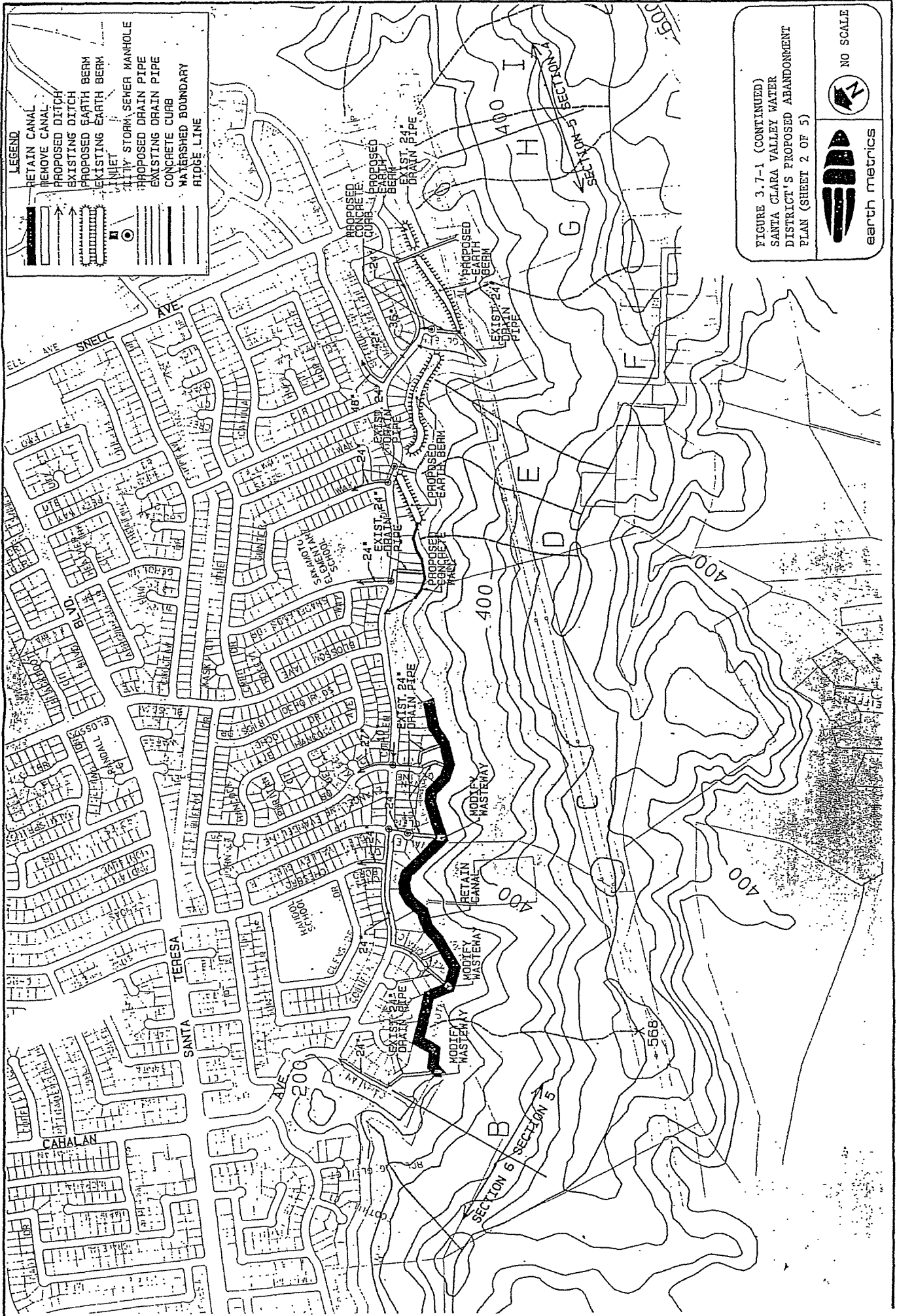
The cross-section shows a conceptual design for regrading the canal right of way to accommodate a trail.

These concept plans reflects ideas from earlier studies. These plans were never implemented.

Source:

Feasibility Study for Providing a Trail Between Almaden Park and the Coyote Creek Park Chain, prepared by Earth Metrics, Inc. for the City of San José Parks and Recreation Department in August 1989.





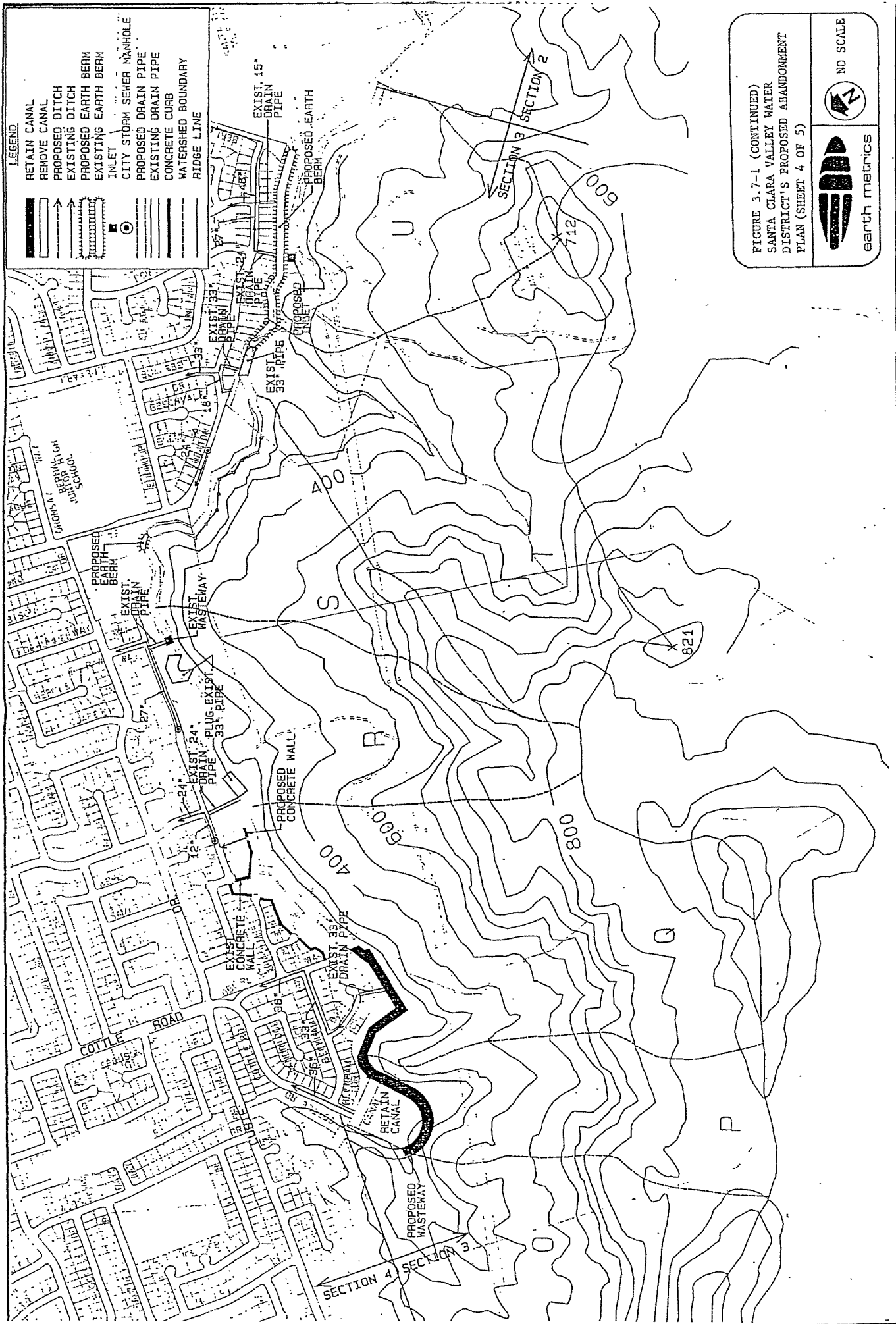
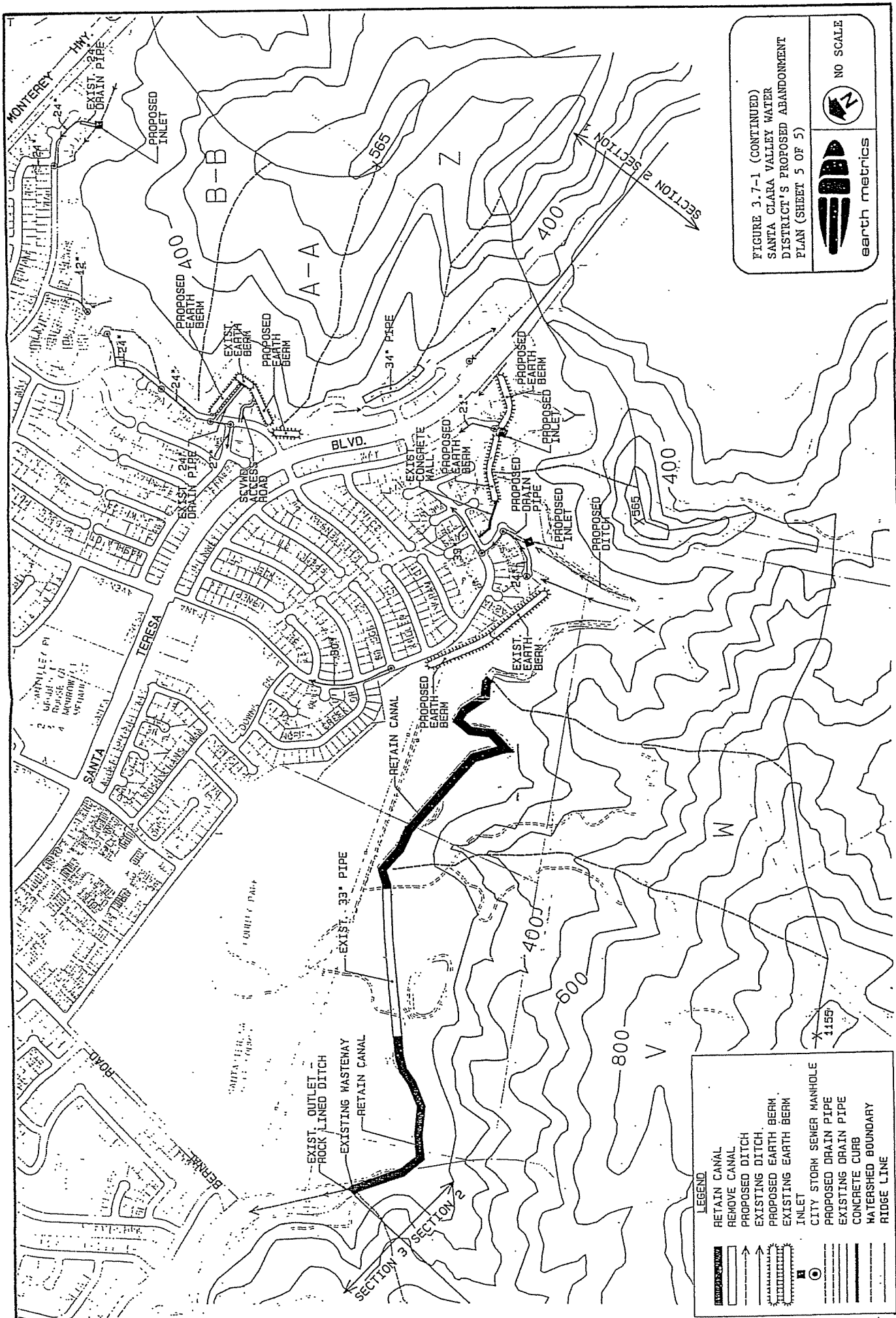


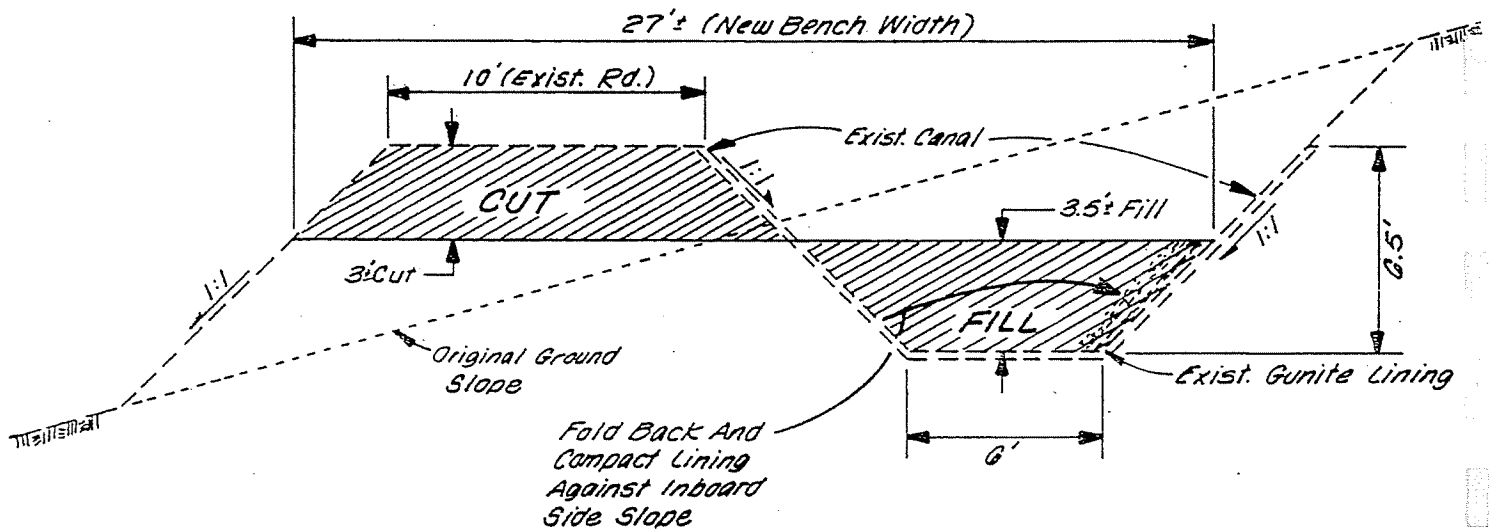
FIGURE 3.7-1 (CONTINUED)
 SANTA CLARA VALLEY WATER
 DISTRICT'S PROPOSED ABANDONMENT
 PLAN (SHEET 4 OF 5)

NO SCALE

earth metrics



BENCH GRADING OF COYOTE-ALAMITOS CANAL



CANAL CROSS SECTION
Not To Scale

FIGURE 5

Appendix B
Meeting Summary of April 23, 2003 Community Meeting
Regarding a Trail along the Coyote Alamos Canal

**Coyote Alamitos Canal Trail/Santa Teresa Trail Corridor
Feasibility Study**

Community Meeting #1 Wednesday, April 23, 2003

7:00 p.m. to 8:30 p.m.

Sakamoto Elementary School Cafeteria, 6280 Shadelands Drive, San Jose

Attendees:

City of San José:
Councilmember Forrest Williams, Council District 2
Anthony Drummond, Legislative Assistant, Council District 2
Joshua Howard, Legislative Assistant, Council District 10
Jan Palajac, Public Works, P&RF
Dave Mitchell, PRNS
Yves Zsutty, PRNS
Bill Miller, SJPd, Crime Prevention

County of Santa Clara:
Kelly Gibson

Santa Clara Valley Water District:
Rosemary Kamei, District Board Member
Debra Caldron, Watershed Planning Unit

Amphion:
Julie Bondurant
Byron McCulley
Cheryl Miller

Community members
Approximately 150 attendees

INTRODUCTIONS

Yves Zsutty, City of San José Trails Coordinator, introduced the Councilmembers and the consultants, and gave a brief overview of the project history.

WELCOME

Councilmember Forrest Williams and Joshua Howard, legislative aide to Councilmember Pat Dando welcomed the community.

CONSULTANT PRESENTATION

The consultant team gave a Powerpoint presentation highlighting the canal history, project history and the opportunities and challenges associated with developing a trail along the canal and other locations within the Santa Teresa Corridor.

The Canal Trail – In concept, a canal route would follow the alignment of an existing Santa Clara Valley Water District Canal. This canal extends from Almaden Lake City Park to the Coyote Creek Parkchain and passes through Santa Teresa County Park. The canal currently serves a role in the City's stormwater infrastructure system. The trail is proposed to be overlaid on an existing maintenance road where existing and feasible. In discontinuous sections, new trail links would need to be developed. Before any further study/development of a recreational trail could commence, the City and the Santa Clara Valley Water District would need to work together to redirect the stormwater runoff from the hills that is now directed into the canal. Most of the land underlying the canal between Almaden Lake City Park and Santa Teresa County Park is in private ownership. Existing Santa Clara Valley Water District easements limit use of the land to the development and maintenance of the water conveyance facility. Unstable terrain and sensitive resources adjacent to the canal, and discontinuous sections of the canal create barriers to continuity. Streets and railroads also create barriers to continuity.

The consultants then reviewed three alternative alignments to the canal alignment. These alignments were a Ridgeline Alternative, a Bufferlands Alternative and an On-street Corridor Alternative.

The Ridgeline Alternative - The ridgeline route would be located in the Santa Teresa Hills. These hills have been identified as a #1 priority for open space acquisition in County's 2020 Plan and the Open Space Authority 5-Year Plan.

Challenges associated with this alternative include: privately owned ranch lands, a private golf course, sensitive biological and archaeological resources, and steep, unstable terrain.

The Bufferlands Alternative - The bufferlands alternative would be located on City and SCVWD land just below the canal. The area considered extends between Blossom Ave. and Santa Teresa County Park. This alternative would provide opportunities for local neighborhood access, but would not be of significant distance to serve as a regional resource.

The study concluded that development of this trail alignment was infeasible due to existing development restrictions on future park and trail construction near the canal embankment and narrow linkages that restrict connectivity; serpentine soils (which support sensitive and endangered species, and contain naturally occurring asbestos that can create a potential hazardous safety condition for people coming in contact with this material); and potentially favorable conditions for sensitive biological resources, such as the burrowing owl. Additionally, the short distances of trail segments available for this alternative do not serve to meet the study's intent of identifying a trail corridor between Lake Almaden Park and the County Park.

On-street Connector Alternative - The On-street connector route would follow bike routes identified in the City and the National Historic Juan Bautista de Anza Trail Bike Plans; however, this alternative would not provide an off-street trail experience. Implementation would require the City bike network to be updated to provide a connection to Santa Teresa County Park.

The study concluded that development of this on-street alignment was feasible.

Following the discussion of alternatives, the Consultants provided their recommendations based on their analysis of the opportunities and challenges.

Canal Trail Recommendations

The study concluded that no further analysis be conducted relating to providing a recreational trail along the Coyote Alamos Canal between Almaden Lake City Park and Santa Teresa County Park at this time. This is due to significant costs associated with obtaining the land, and resolving technical and environmental issues. Specifically, the study determined that it is currently infeasible to develop this section of the canal as a recreational trail because: 1) the land is privately owned and the easements are very restrictive; 2) landowners have privacy and security concerns associated with their homes and ranches, 3) there are major geotechnical engineering challenges associated with modifying the existing canal and drainage infrastructure in this hillside location; and 4) there are discontinuous canal sections that have potentially sensitive environmental and cultural resources.

Ridgeline Line Alternative Recommendations

Pursuing this trail alternative is dependent on developing partnerships with land trusts to acquire private lands as future open space, as opportunities arise. Should the land ownership change and opportunities for trails arise, development of trail system should be overlaid on existing ranch roads to maximum extent possible to minimize impacts to biological and archaeological resources.

Adjacent Buffer Lands Alternative Recommendations

The proximity to homes; the narrow, steep embankment of canal roadbed; and the development restrictions adjacent to the canal maintenance road embankment preclude development of this trail alternative. With community support, the City could develop Master Plans for neighborhood parks (i.e. Foothills Park and Century Oaks Park) on the City owned lands.

On-street Connection Alternative Recommendations

With community support, the City could update and implement the Citywide bike network and pedestrian walkway system between Almaden Lake City Park and Santa Teresa County Park. Connections to the Coyote Creek Parkchain would require further study.

Current Opportunities

With Community support, the Consultants could focus their studies on the connection between Santa Teresa County Park and the County Creek Parkchain. This section of the Santa Teresa corridor alignment includes two critical gaps. These gaps are the Santa Teresa Blvd. and Monterey Highway street / railroad crossings. The consultant recommends further study of these crossings because: 1) pursuit of all alternatives considered requires safe crossings over Santa Teresa Blvd. and Monterey Highway; 2) there is window of opportunity to partner with future industrial development; and 3) these connections would benefit other regional trail systems. Challenges associated with these crossings include engineering requirements to develop a raised crossing over Monterey Highway, a State Highway, and the Union Pacific Railroad, and development of a landing adjacent to the Coyote Creek Trail in an area narrow, constrained area. Development of a landing on Tulare Hill would be on private land (requiring easements or land acquisition) with steep terrain and, serpentine soils. The challenges associated with crossing Santa Teresa Blvd, a major arterial between the Tulare Hill and Santa Teresa County Park, include limited sight lines; a potential route for the future lightrail; private land (requiring easements or land acquisition); and new trail development within the County Park to connect to the existing County park trail system.

At this point, the Consultants opened the meeting to the Community for discussion.

COMMUNITY COMMENTS

The majority of the meeting was devoted to listening to the community. The following comments are summarized in the order that they were received. All of the comments are from the community, except where it is indicated that a Consultant, City Councilmember or Water District Board Member was responding directly to community questions or requests for clarification on a specific point. Most noteworthy is how the community members came into the meeting with very diverse points of view and were able to work among themselves to unite and recommend a course of action.

Summary of Comments

I am in favor of the Canal Trail. The Canal is in my backyard. Users will be people from my community.

I am opposed to the Canal Trail. Users will be from outside the community.

I am opposed to Canal Trail – I represent 100 people who signed a petition opposing a canal trail. Primary Concern: Privacy – Views into backyards from canal limits residents use of their backyard amenities such as hot tubs.

For those concerned about the Canal Trail, Council members offered a Ridgetop Trail as an alternative. What happened to that recommendation?

Councilmember Williams's response: Council Members Dando and Williams have discussed alternative alignments to the canal trail to mitigate concerns about privacy. This alternative alignment would be a ridgeline trail between Almaden Lake City Park and Cahalan. At Cahalan, the trail would be directed back to the canal. The trail would then traverse the canal between Cahalan and the Coyote Creek Parkchain.

That alternative doesn't address the concerns of property owners living adjacent to the canal east of Foothill Park.

What are the comparative costs of the four alternatives presented by the consultants?

Consultant response: No costs are available. This presentation is focused on the feasibility of developing a trail. As a general order of magnitude, the canal route

would have the highest costs to cover land acquisition and infrastructure modifications. The on-street alternative would have the lowest costs because the street system is already in place.

Consultant response: *Assessing the alternatives from a feasibility perspective the connection between Santa Teresa County Park and the Coyote Creek Parkchain has the most opportunities to explore at this time because there are fewer private parcels and privacy concerns. Additionally, pending developments may provide opportunities for incorporating a trail.*

Support was expressed for the next steps: conducting further study in the focused study area and the connection between Santa Teresa County Park and the Coyote Creek Parkchain.

I have property adjacent to the Canal. I am concerned that a trail would raise my homeowner's insurance.

Liability: Who would assume liability and upkeep of the canal if it were to become a trail? The Water District has been trying to get rid of the canal to eliminate their liability for this structure.

City would have to assume liability if they purchased the canal.

How much would the trail traffic increase if the trail were developed?

Consultant response: *Unknown.*

I am concerned about security and fires in the Santa Teresa Hills.

Has an access/patrol plan been developed?

Consultant response: *No, a maintenance and operations plan would be a component of the master plan and implementation phase if a trail were to be developed.*

Studies show that crime is lower where trails have been developed.

Will any staging/parking areas be developed as part of the trail?

Consultant response: *The locations of existing staging areas are being identified as part of the Feasibility Study. Identification and design of new staging/parking areas would be completed as part of the master-planning phase if a trail were to be developed.*

Trail staging/parking areas would be disruptive to my quiet neighborhood.

Property values next to schools are devalued.

What does "trail" mean? What will be the trail surface? Will it be paved or gravel? Will there be lights, picnic areas? Who would use the trail? Would there be motor scooters, etc?

Consultant response: *As this is a feasibility study, none of these design issues have been addressed. If a trail were developed these design features would be determined through a community process. Typically the City does not light trails. Motorized use, aside from maintenance vehicles and wheelchairs, is typically not allowed on any City trails.*

Consultant response: *Feasibility Study versus Master Plan. A feasibility study addresses whether a trail could be developed. A Master Plan addresses the design character and parameters relative to use.*

The Canal is an existing trail. It has had four decades of use. There is no point in closing it now.

I have a house on Dade Ct. that backs onto the canal. I have not found the trail or it users to be objectionable. People go by, but I have not had any problems with vandalism or other issues.

I have been a police officer for 20 years. I live near the canal. I have seen major problems/criminal activities. When there are more people, there will be more crime.

Will the Tulare Hill connection to Santa Teresa County Park incorporate an alignment for the Bay Area Ridge Trail?

Consultant response: *Resolution of the two critical crossings (Monterey Highway and Santa Teresa Blvd. would also benefit the Bay Area Ridge Trail and the Juan Bautista de Anza Trail. These two regional trails need to cross the Santa Teresa Valley in this area to connect the Coyote Creek Park Chain with Santa Teresa County Park and beyond to Almaden Quicksilver County Park.*

What about future housing on hills? What's the future of open space on this hill? I want to make sure that the hills stay as open space.

I can't leave my dog in my back yard due to the trail users along the canal. They disturb the dogs, throw rocks, etc.

Nighttime abuse: Abandoning the trail will lead to abuse. Involvement in the trail will reduce abuse. For examples, look at the Los Alamitos and Los Gatos Creek Trails.

The Canal is being used as a dumping area. I want this activity to go away.

The Canal is supposed to be maintained by Santa Clara Valley Water District, but they are not maintaining it. There are landslides along the canal. There is one slide that is backing up into my fence and destroying/ moving my fence. The District has not removed this material and I don't see things getting any better.

I am involved in a variety of long distance multi -sport activities. I use trails frequently for distances of six to ten miles. I used to use the Canal Trail but I don't anymore. The distance between Snell and Almaden Lake City Park is not long enough. I now use Santa Teresa County Park. I do not see trash or debris on those park trails or other trails. The presence of people and ongoing maintenance and patrol keeps these trails safe and clean. In response to those who link crimes to trails, I would respond that while crime is a problem, it is a problem everywhere, and it is not tied to trail use. Additionally, for those who are concerned about illegal activities by teenagers, I would respond that some of those teenagers that frequent the canal and the hills above at night are most likely teenagers of some of the parents who are at this meeting tonight.

Concerned about the illegal use of trails. I would rather spend available money on schools, not trails.

What are the study recommendations?

Consultant response: *Based on the findings from our study, the consultant team is recommending that a recreation trail not be considered between Almaden Lake City Park and Santa Teresa County Park until the infrastructure/drainage issues along the canal are resolved. The consultant team believes that the best opportunity to move the project forward is to conduct further detailed study on the focused study area located between Santa Teresa County Park and the Coyote Creek Parkchain. This area has the most opportunities to explore at this time and pending developments may provide opportunities for incorporating a trail.*

Councilmember Williams's response: *The consultant team has provided their recommendations. The City Council's final decision will be based on community input, as well as the recommendations from the feasibility study and other factors.*

Is there any way that the City will allow the Water District to abandon the canal?

Councilmember Williams's response: *While the City works closely with the Water District, they do not have jurisdiction over the Water District's decisions.*

We need to get to the conclusion and determine where to go from here. I understand that there are acquisition issues associated with the canal alignment. Councilmember Williams would you use eminent domain to implement the trail?

Councilmember Williams's response: *No, I am not recommending the use of eminent domain.*

Councilmember Williams's response: *Money for the feasibility study was granted by the State. There is no money for implementation and no costs for implementation have been included in the feasibility study.*

What is the distance between Cahalan and the Coyote Creek Parkchain?

Councilmember Williams's response: *Approximately eight miles.*

I would like the community to vote on their preferences on which, if any, of the trail routes to pursue.

Why are there no costs for development and maintenance associated with each of the alternatives?

Consultant response: *This is a feasibility study. The first order of priority was to determine whether any trail alternative could be implemented. If the trail can not be implemented due to land use/ownership, and / or engineering or environmental constraints, then the costs are irrelevant.*

Make a time table for decision of this issue and make a decision.

Whether it is a paved trail or an unpaved trail, do something to connect the Coyote Creek Trail to the Santa Teresa Hills.

What is it about the focused study area that makes it possible?

Consultant response: *We don't know if it is possible as there are numerous challenges to overcome. However, this area has fewer restrictions in terms of land ownership, privacy concerns and physical terrain. Additionally, there is a window of opportunity to implement a trail in conjunction with future development in the near term.*

Couldn't the future Bailey Road interchange be used to provide a crossing over Santa Teresa Blvd. and Monterey Hwy.?

Consultant response: *This will be one of the alternatives that the consultant team will review.*

Genesis of money for the study – At prior community meetings, the community was very divided. The Community acknowledged that problems exist (e.g. arson, guns, drugs). In addition there were concerns regarding Santa Clara Valley Water District abandoning the canal and the City's/County's interest in the canal. However, the one positive concept that the community as a whole backed was the importance of the Santa Teresa Hills as Open Space. The City police chief and others recommended this trail study as a means of recognizing this important resource. If you put up obstacles and do nothing on the assumption that nothing will change, you will be wrong. We must not lose sight of the big picture. The Open Space Authority's #1 priority acquisition is the Santa Teresa Hills. However, the Authority will not act unless they hear from the community. Don't fight with each other. Unite to save the Santa Teresa Hills as open space. These hills are under threat of development. There are pending development proposals before the County right now.

Revisit the feasibility of developing a ridgeline trail. Is this alignment as infeasible as the canal?

Consultant response: *Opportunities – the Santa Teresa Hills are identified as open space in both the County's 2020 Open Space Plan and the Santa Clara County Open*

Space Authority's Five Year Plan. However, all of the land is in private ownership and the hills are in the County's jurisdiction. The City is not in the position to purchase these ranch lands. Creation of a trail will be dependent on windows of opportunity for land trusts /open space organizations to acquire in fee or easement these lands as landowners are seeking to sell or change the existing land uses. If the lands are purchased, trail development may be restricted largely to existing range roads to minimize new trail construction, which could have significant environmental impacts related to the soils, steep terrain and biotic and archaeological resources. The resulting trail would provide recreation benefits, but they would be different from the neighborhood serving benefits of the Canal Trail in terms of proximity and access to residential neighborhoods and the gentle grade of the maintenance road.

Wildlife concerns – do not open the trail to public use. Homes are pushing out into the hills reducing the available wildlife corridor. The trail would further impact wildlife.

Response of Rosemary Kamei, SCVWD Board member: *The Water District recognizes that there are problems associated with the canal including trash and landslides. The Water District is committed to working with the community. If community members have areas that need to be addressed, they should contact the Santa Clara Valley Water District.*

The Water District will not abandon their responsibility for the canal. Should the District move to alter the configuration or use of the existing canal, there will be a public process and hearing before any action is taken.

I would like to thank the Water District for their work and recognize Rosemary Kamei for her commitment to the community.

Remember that initially we were trying to preserve the east side of the Santa Teresa Hills (unlike the west side – Almaden Valley side of the hills, which has been developed with residential homes). Do not lose sight of this vision.

END COMMUNITY DISCUSSION

COMMUNITY POLL

At the end of the community discussion a poll was taken at the request of the community. Community members were allowed to vote for as many of the options as they wanted.

| | |
|--|------|
| Preserve Santa Teresa Hills as Open Space | 100% |
| Pursue development of the entire canal route – Almaden Lake City Park to Coyote Creek Parkchain | 40% |
| Pursue development of Ridgeline Trail | 75% |
| Pursue development of the On-street Corridor | 0% |
| Pursue development of a portion of the canal route – Cahalan to Coyote Creek Parkchain (Concern of neighbors residing along this route noted) | 30% |
| Pursue further study on focused areas (Santa Teresa County Park to the Coyote Creek Parkchain) | 100% |

CLOSING COMMENTS

Yves Zsutty, City Trails Coordinator: *We have heard many differing opinions and many concerns voiced. These comments have been recorded and will be considered as the council makes decisions.*

Joshua Howard, for Councilmember Dando: *This is a Feasibility Study. The money for this project is limited to completion of this study. Implementation of all of the alternatives considered will be very costly. Implementation of any solution derived from this process will be a long way off. If you have any further comments or concerns, please contact Councilmember Dando's office.*

Councilmember Williams – *Working together as a community we will reach the right conclusion on all the variables that were considered tonight. I recognize that the community views open space as a priority. The community needs to work with the Open Space Authority to achieve this goal. I urge you to write letters to the Authority to express your views and capture opportunities as they arise. I will put the Open Space Authority's contact information on my Web site.*

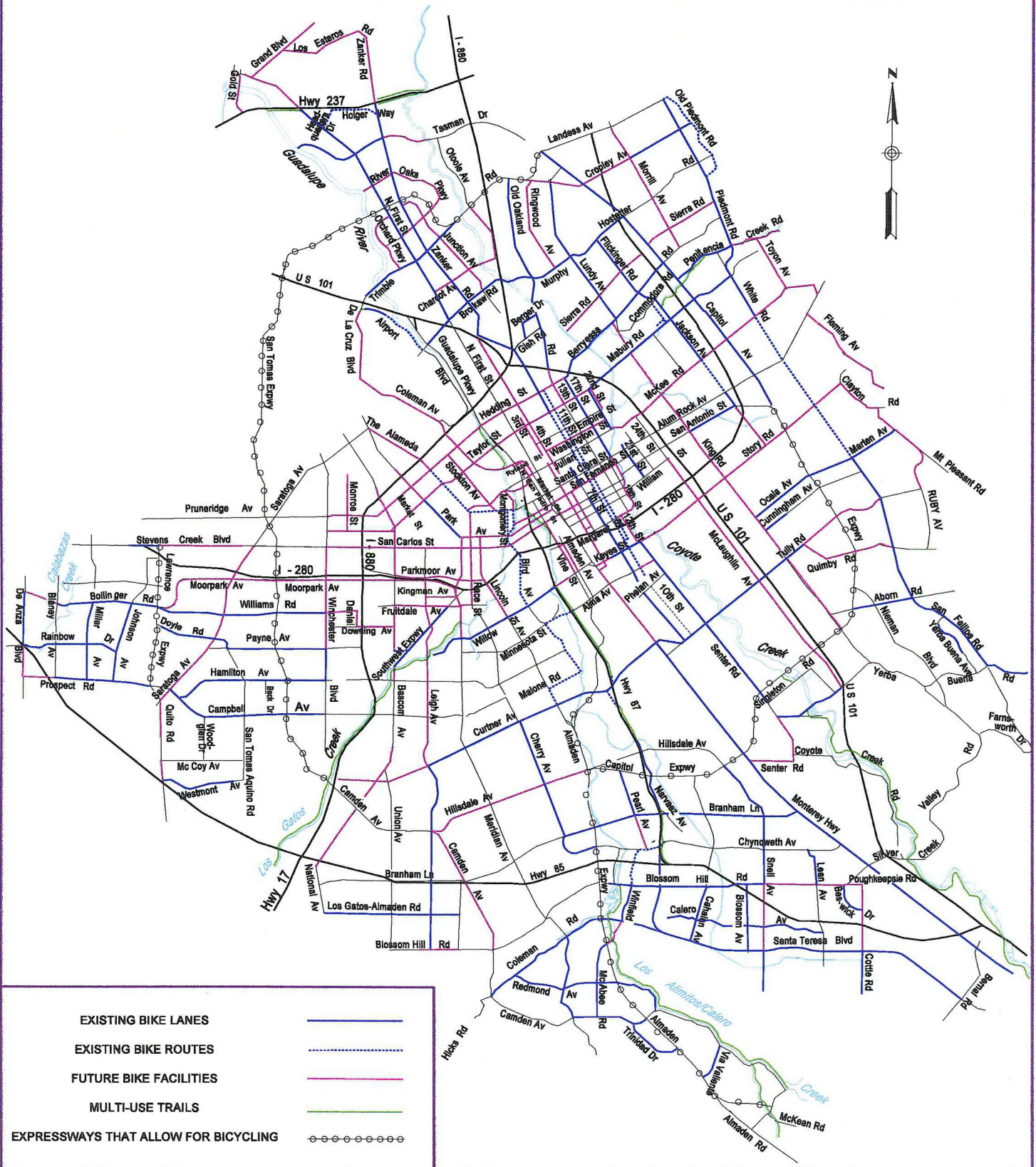
In closing, the next steps will include review of community input and consultant findings, review of remaining resources / money for project, and consideration on whether to take to project to City Council for a decision. We must recognize that this will be a long-term project with no available funds for implementation in the foreseeable future.

Coyote Alamos Canal / Santa Teresa Trail Corridor

Appendix C

City of San José Trails & Bicycle Maps

CITY OF SAN JOSE TRANSPORTATION BICYCLE NETWORK 2001-02 PLANNING MAP





San José Area Trails

Coyote-Guadalupe Riparian Corridor Trails and Greenways System



Creek/River Trails

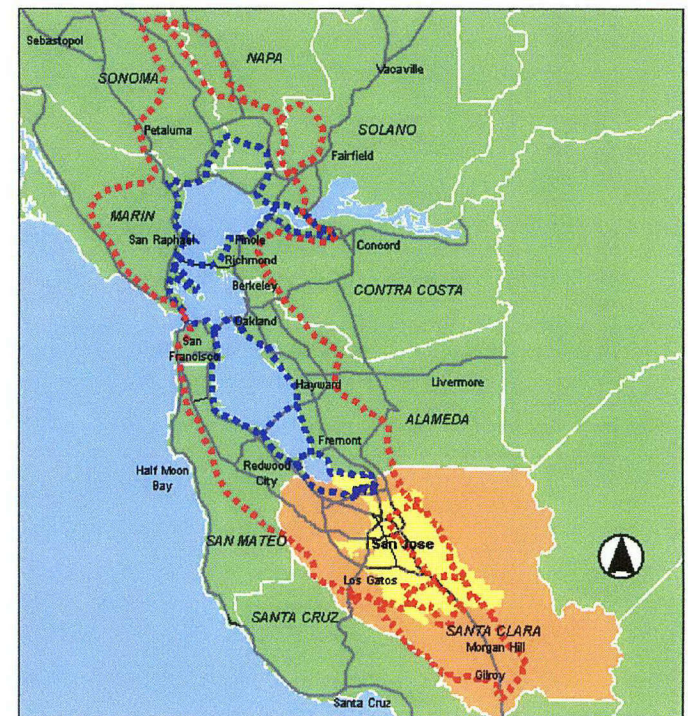
1. Coyote
2. Fisher
3. Penitencia
4. Guadalupe R.
5. Guadalupe C.
6. Los Alamitos/Calero
7. Los Gatos
8. Silver Creek/Thompson
9. Hetch Hetchy Corridor
10. Highway 87
11. Saratoga
12. Fowler
13. Los Alamitos/Coyote Creek Canal

Legend

- City of San José
- Developed Trail
- Undeveloped Trail
- Bay Trail
- Bay Ridge Trail
- Arterials
- Expressways
- Freeways/Highways

This map is a planning tool utilized by the City of San José for future consideration by the San José City Council. This map does not convey the rights to the public to use these recommended trail routes or exempt a person from trespassing charges. Furthermore, these maps are conceptual, may not reflect the actual trail routes, and is subject of future revisions.

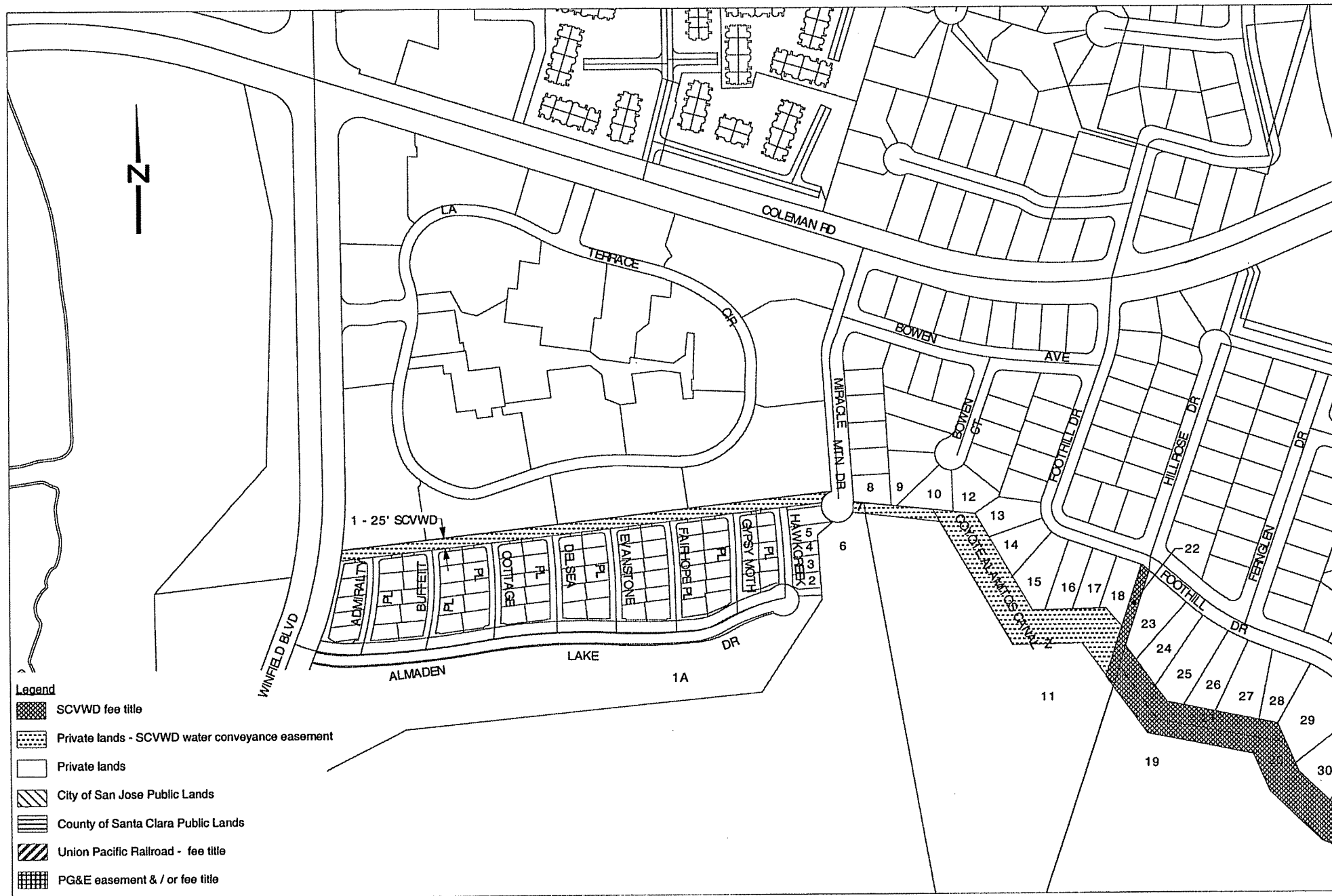
Map Created By Parks and Community Facilities Development, August 2001



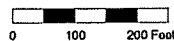
Coyote Alamos Canal / Santa Teresa Trail Corridor

Appendix D

Canal Ownership Maps



APPENDIX D - CANAL OWNERSHIP MAPS



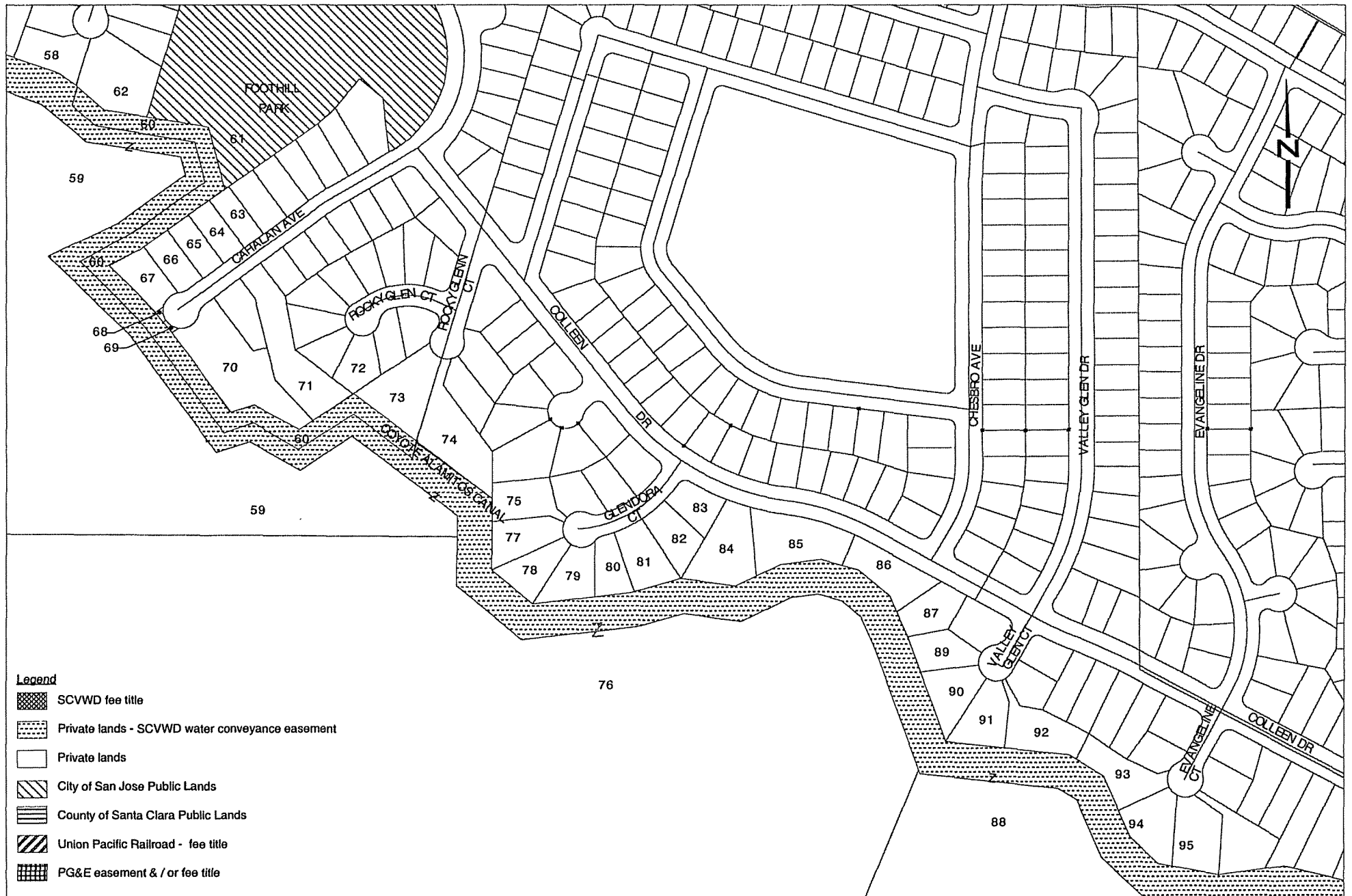
**Coyote -Alamitos Canal /Santa Teresa Corridor Trail
Feasibility Study**



APPENDIX D - CANAL OWNERSHIP MAPS

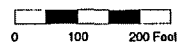
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**Coyote -Alamitos Canal /Santa Teresa Corridor Trail
Feasibility Study**

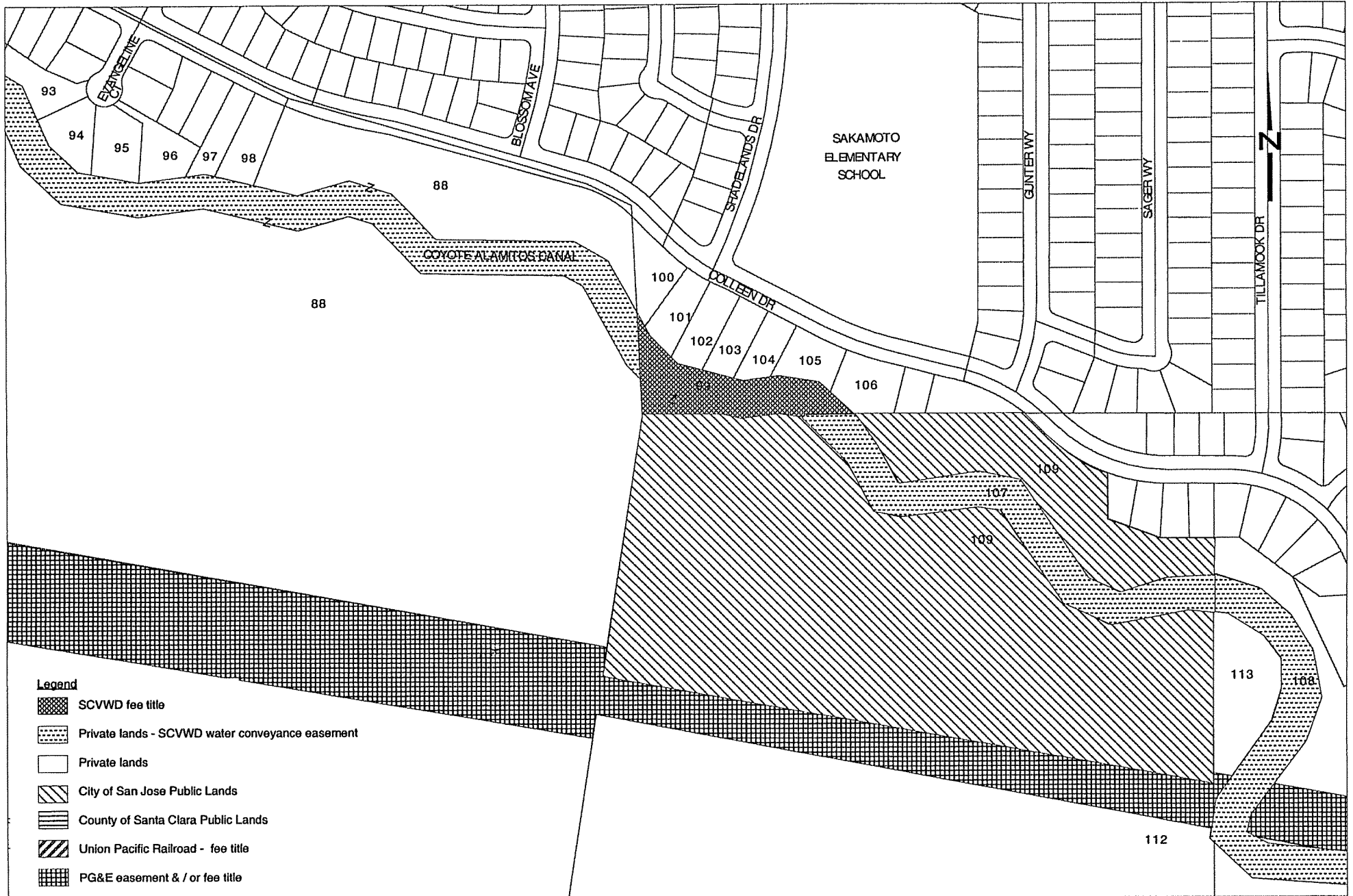


APPENDIX D - CANAL OWNERSHIP MAPS

Sheet 3 of 15



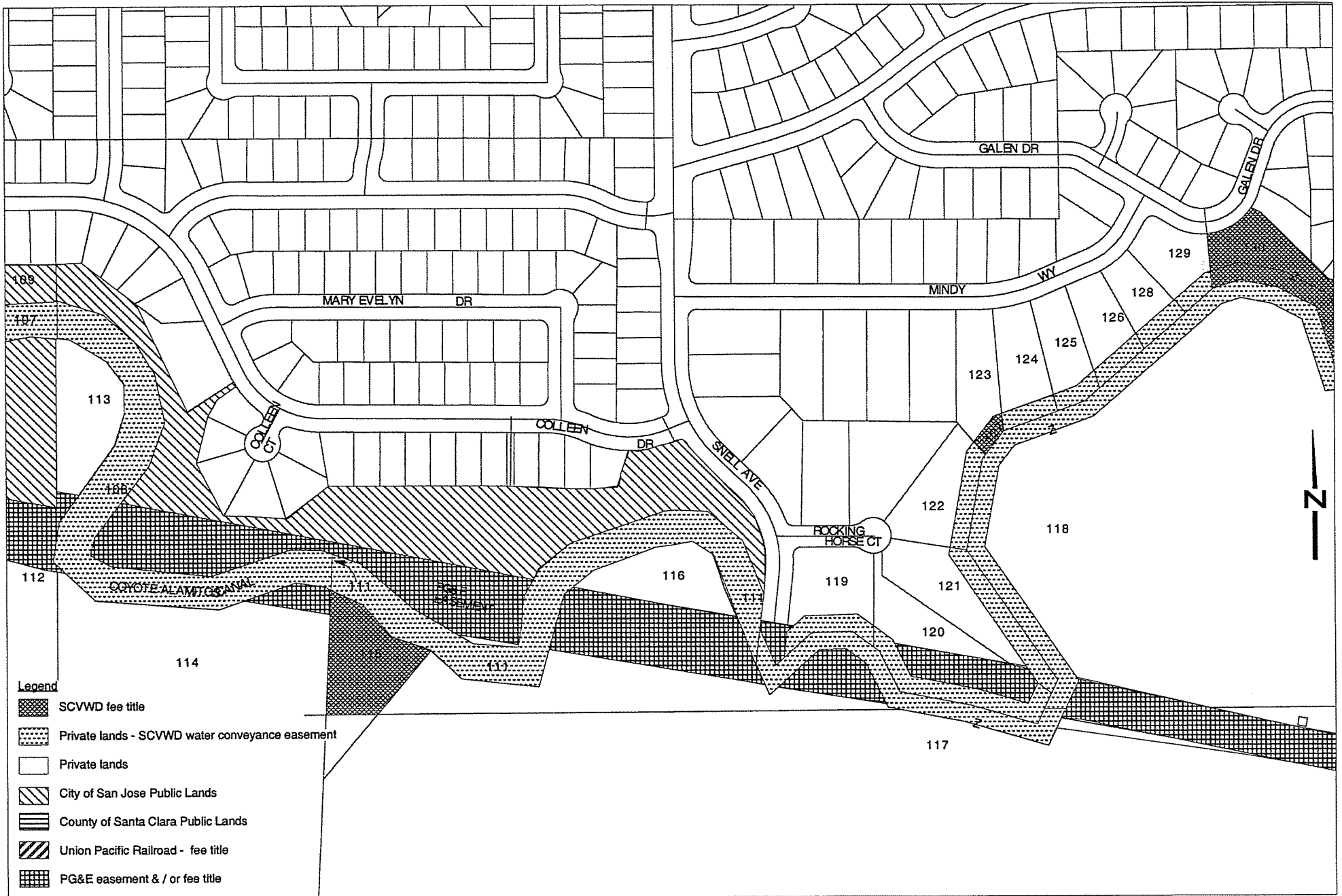
**Coyote -Alamitos Canal / Santa Teresa Corridor Trail
Feasibility Study**



APPENDIX D - CANAL OWNERSHIP MAPS

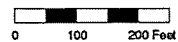
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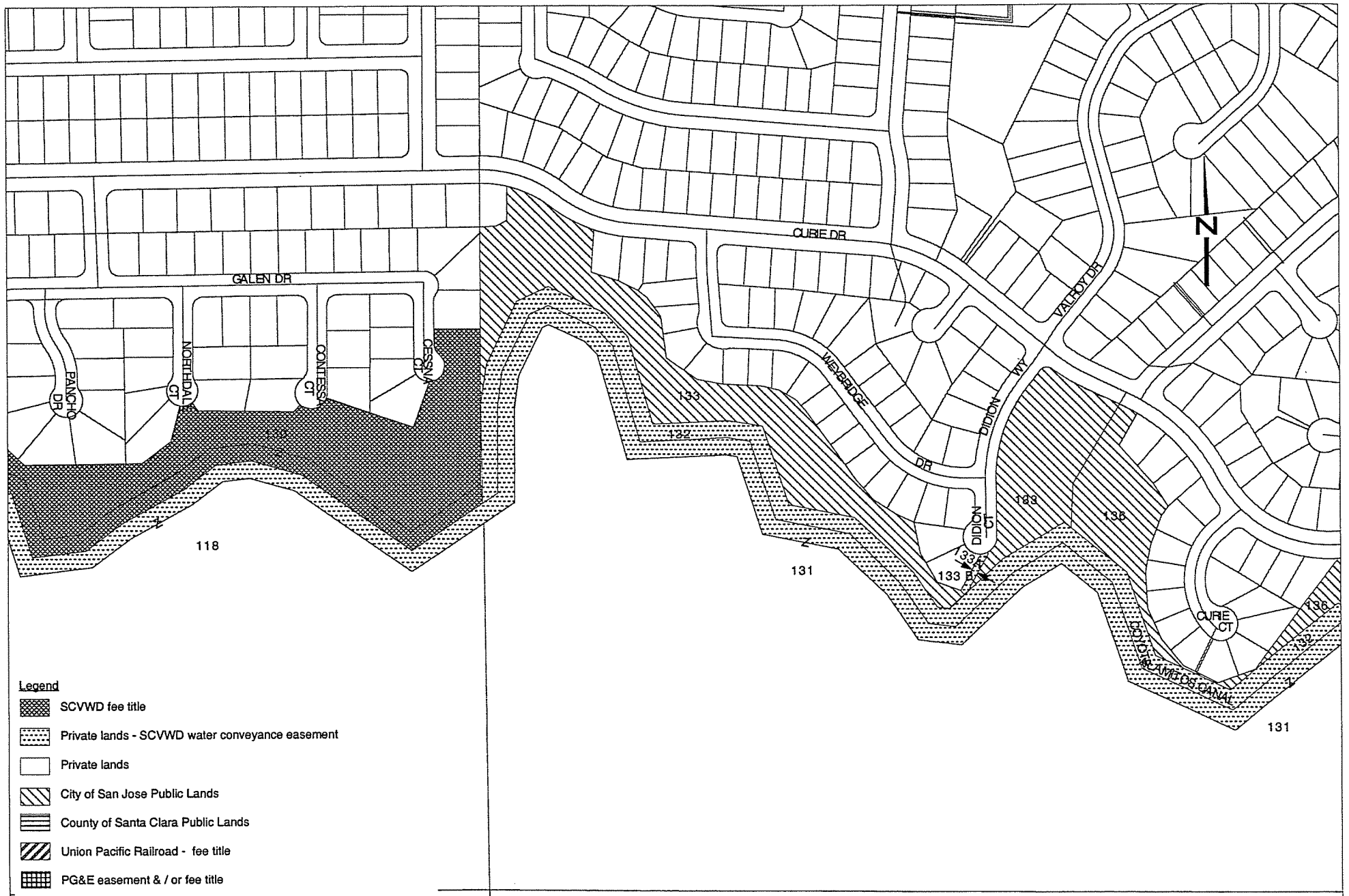


APPENDIX D - CANAL OWNERSHIP MAPS

Sheet 5 of 15

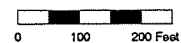


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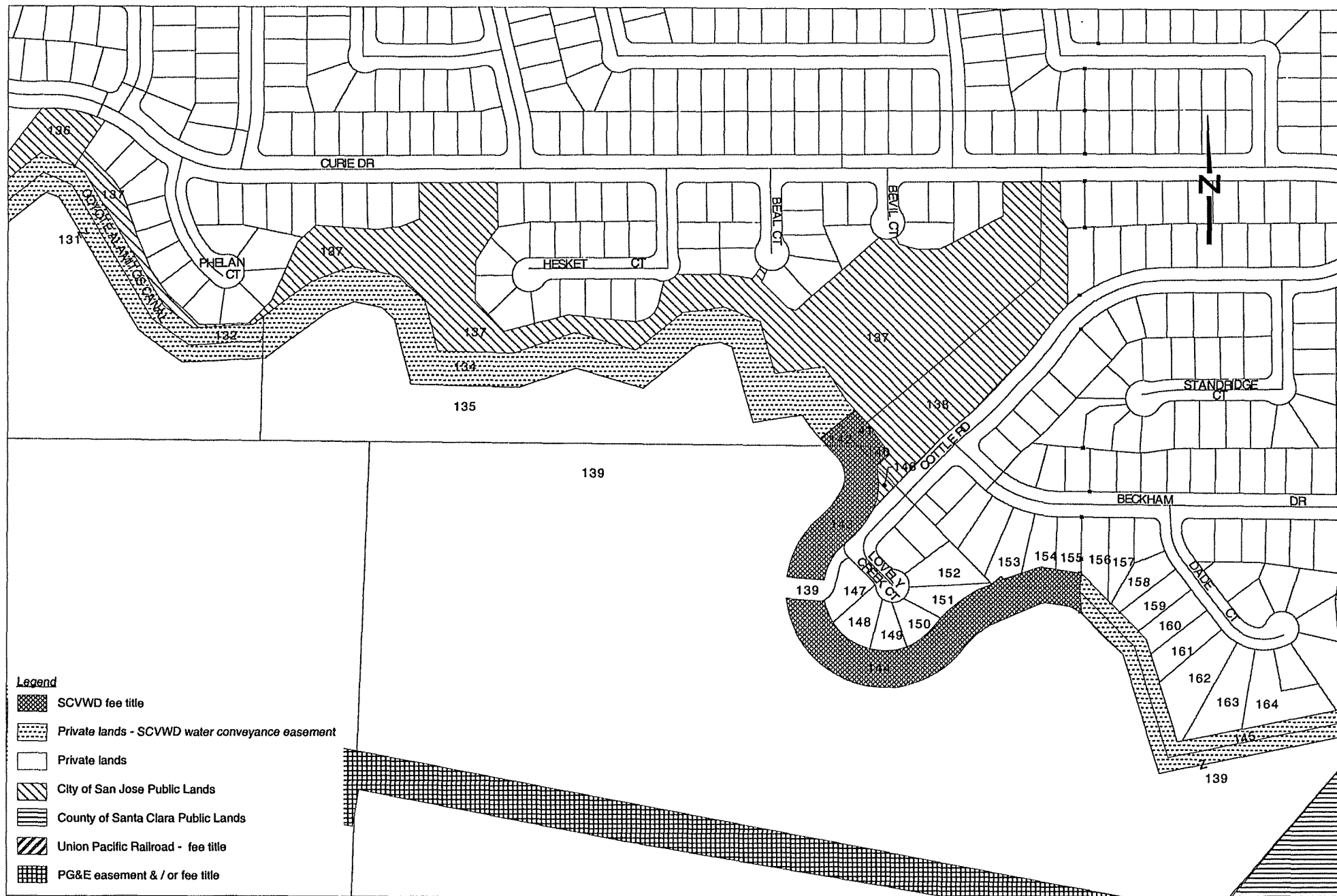


APPENDIX D - CANAL OWNERSHIP MAPS

Sheet 6 of 15

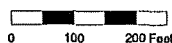


**Coyote -Alamitos Canal /Santa Teresa Corridor Trail
Feasibility Study**

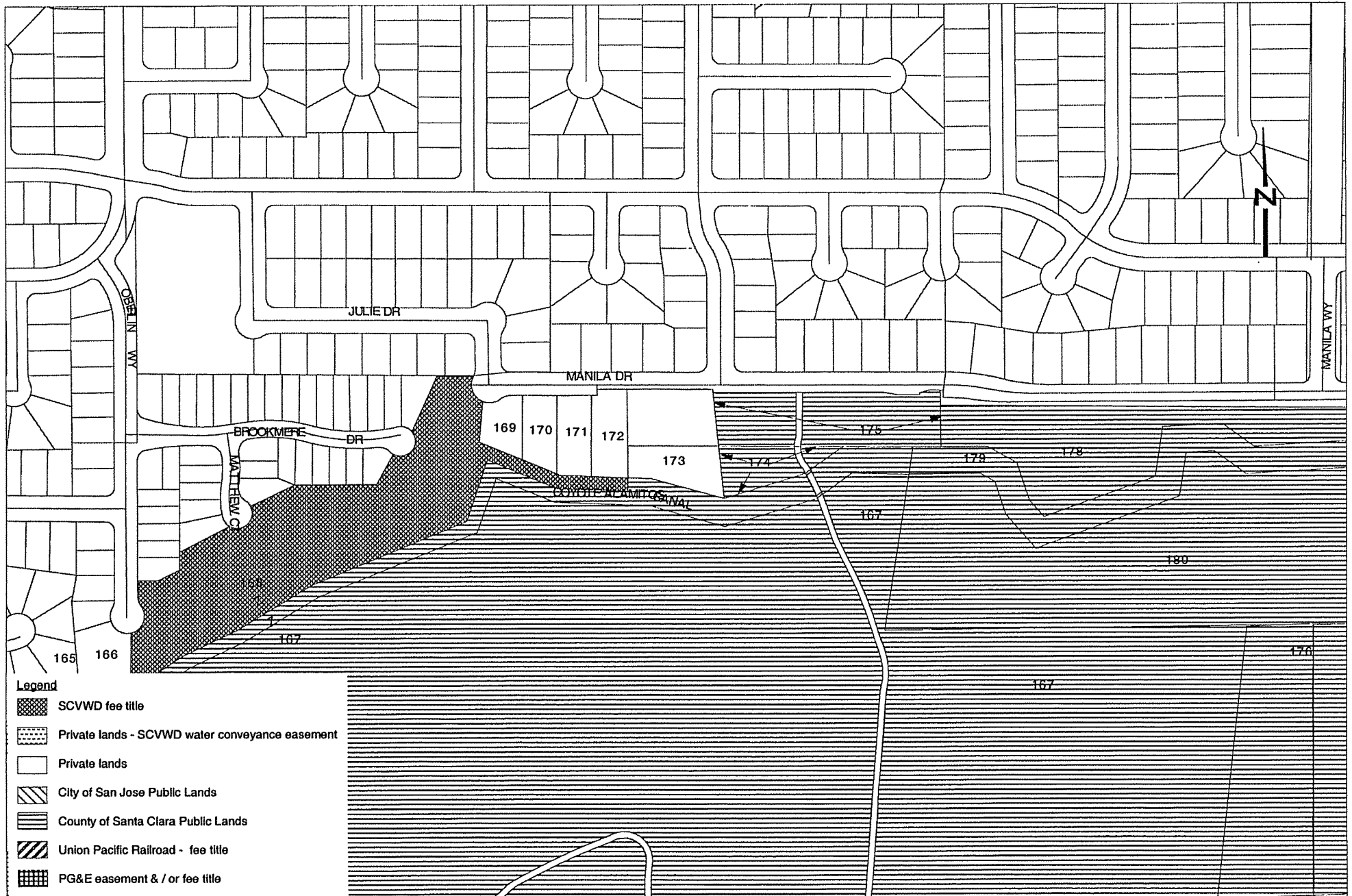


APPENDIX D - CANAL OWNERSHIP MAPS

Sheet 7 of 15



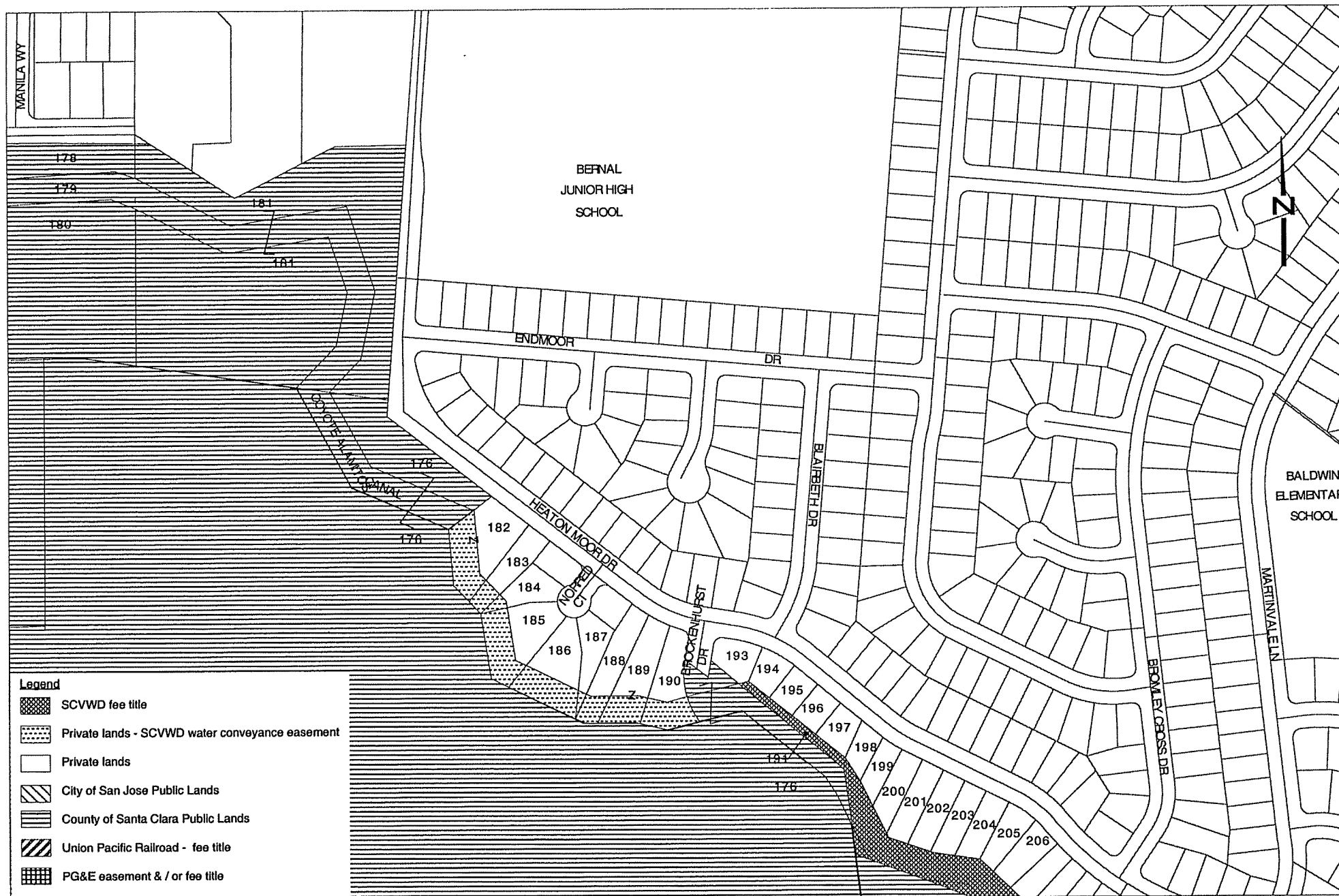
**Coyote -Alamitos Canal /Santa Teresa Corridor Trail
Feasibility Study**



APPENDIX D - CANAL OWNERSHIP MAPS

Sheet 8 of 15

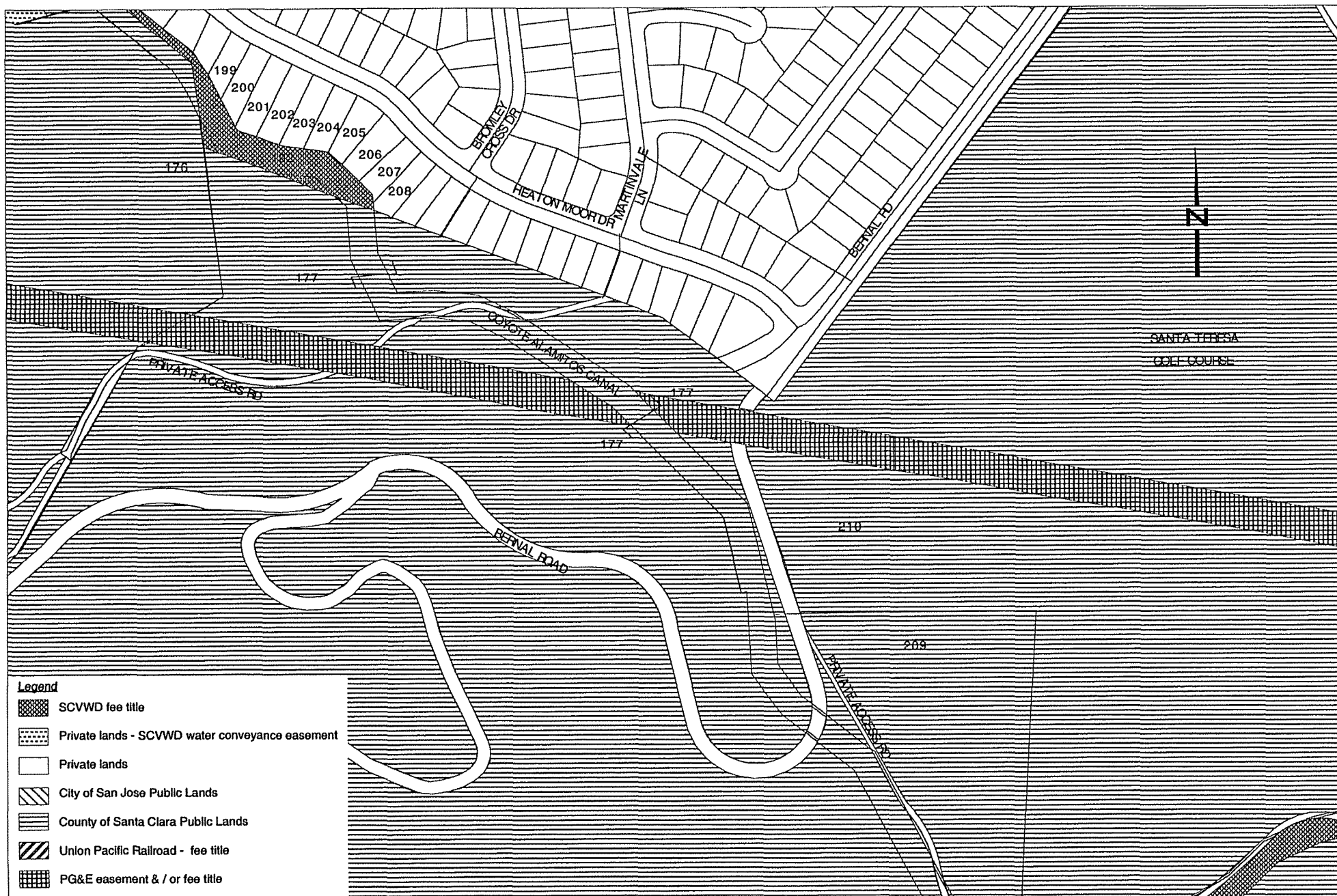
**Coyote -Alamitos Canal /Santa Teresa Corridor Trail
Feasibility Study**



APPENDIX D - CANAL OWNERSHIP MAPS

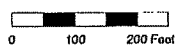
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**Coyote -Alamitos Canal /Santa Teresa Corridor Trail
Feasibility Study**

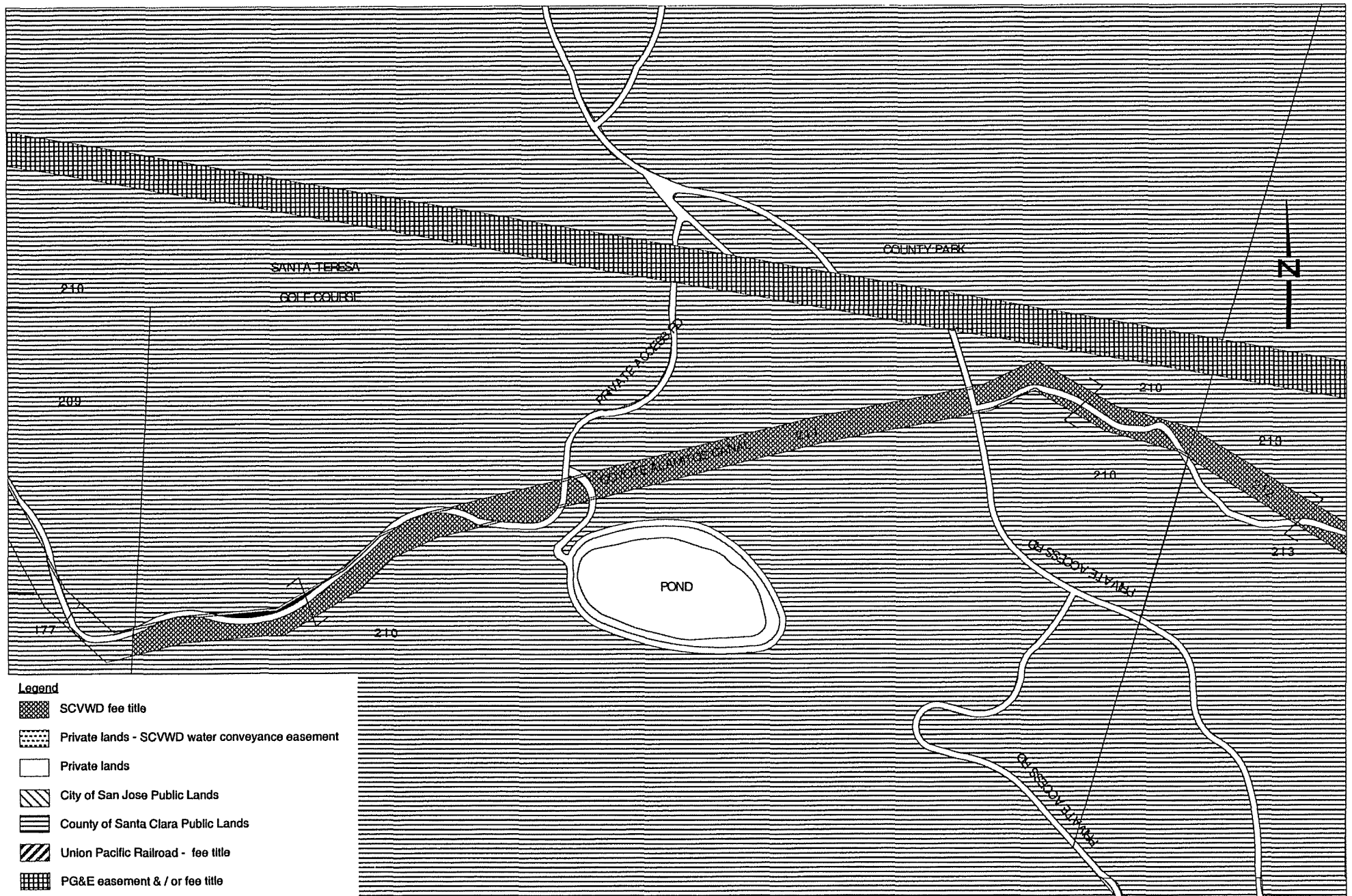


APPENDIX D - CANAL OWNERSHIP MAPS

Sheet 10 of 15



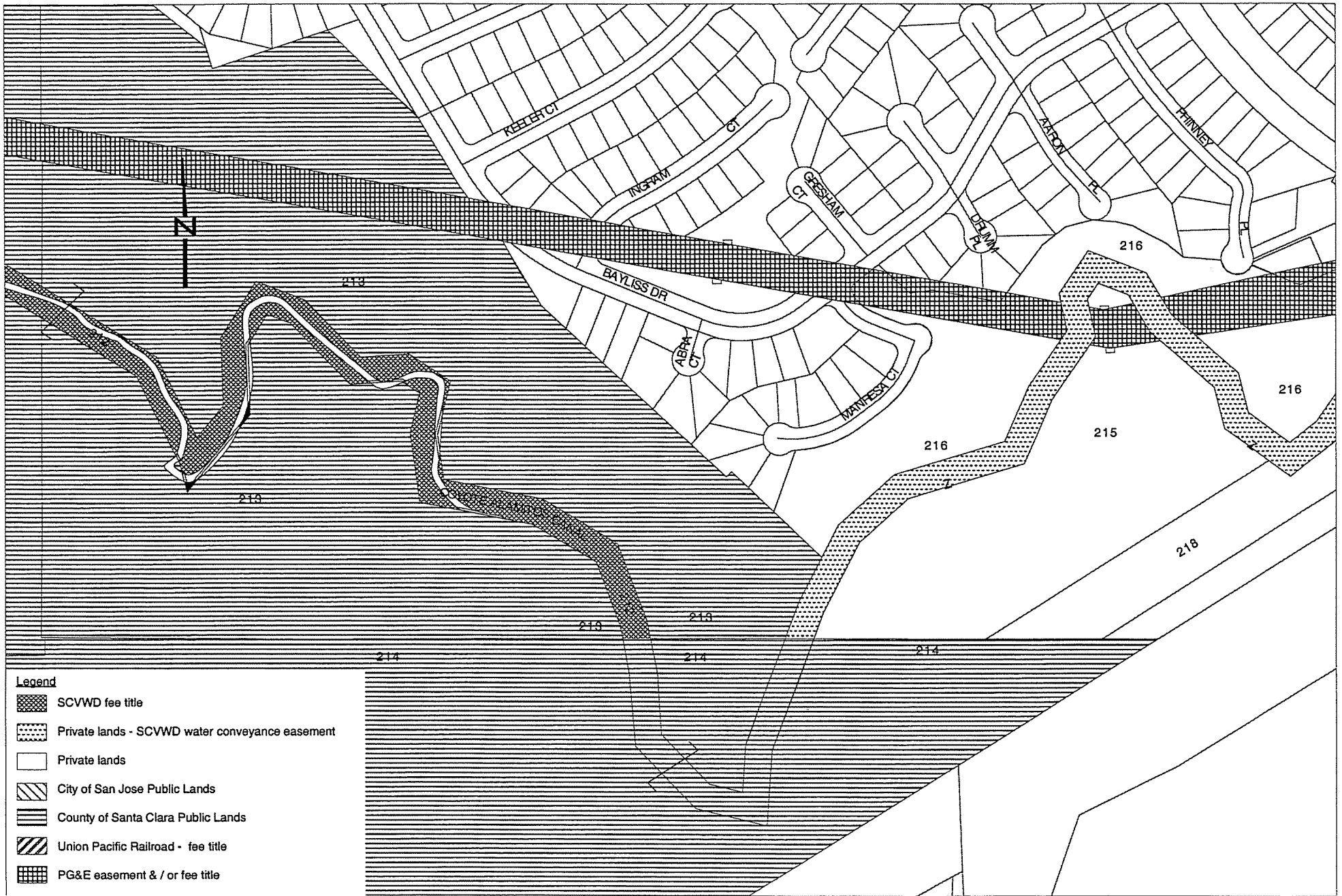
**Coyote -Alamitos Canal /Santa Teresa Corridor Trail
Feasibility Study**



APPENDIX D - CANAL OWNERSHIP MAPS

Sheet 11 of 15

**Coyote -Alamitos Canal /Santa Teresa Corridor Trail
Feasibility Study**



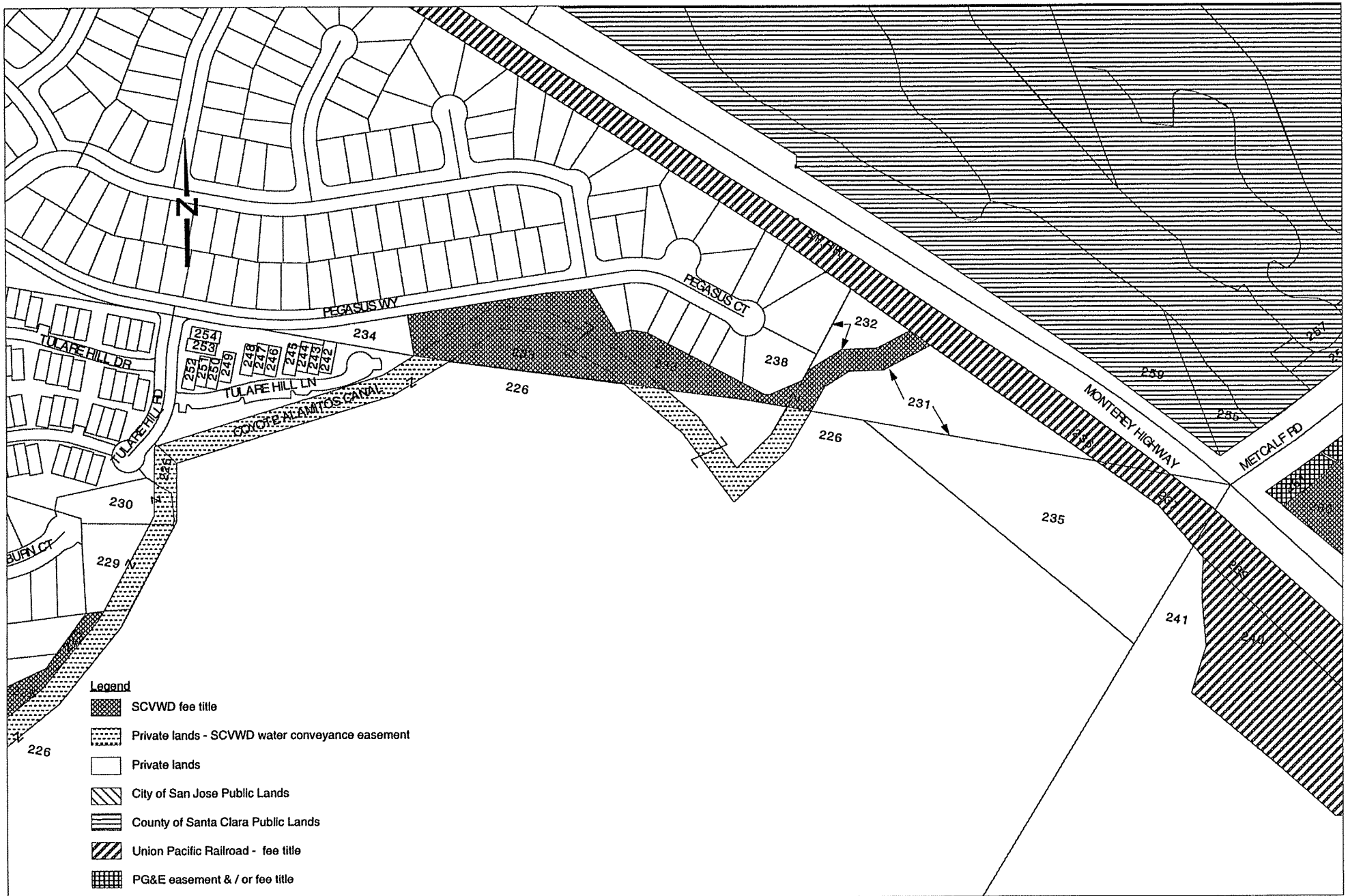
APPENDIX D - CANAL OWNERSHIP MAPS

Sheet 12 of 15

Coyote -Alamitos Canal /Santa Teresa Corridor Trail
Feasibility Study

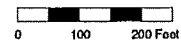


APPENDIX D - CANAL OWNERSHIP MAPS

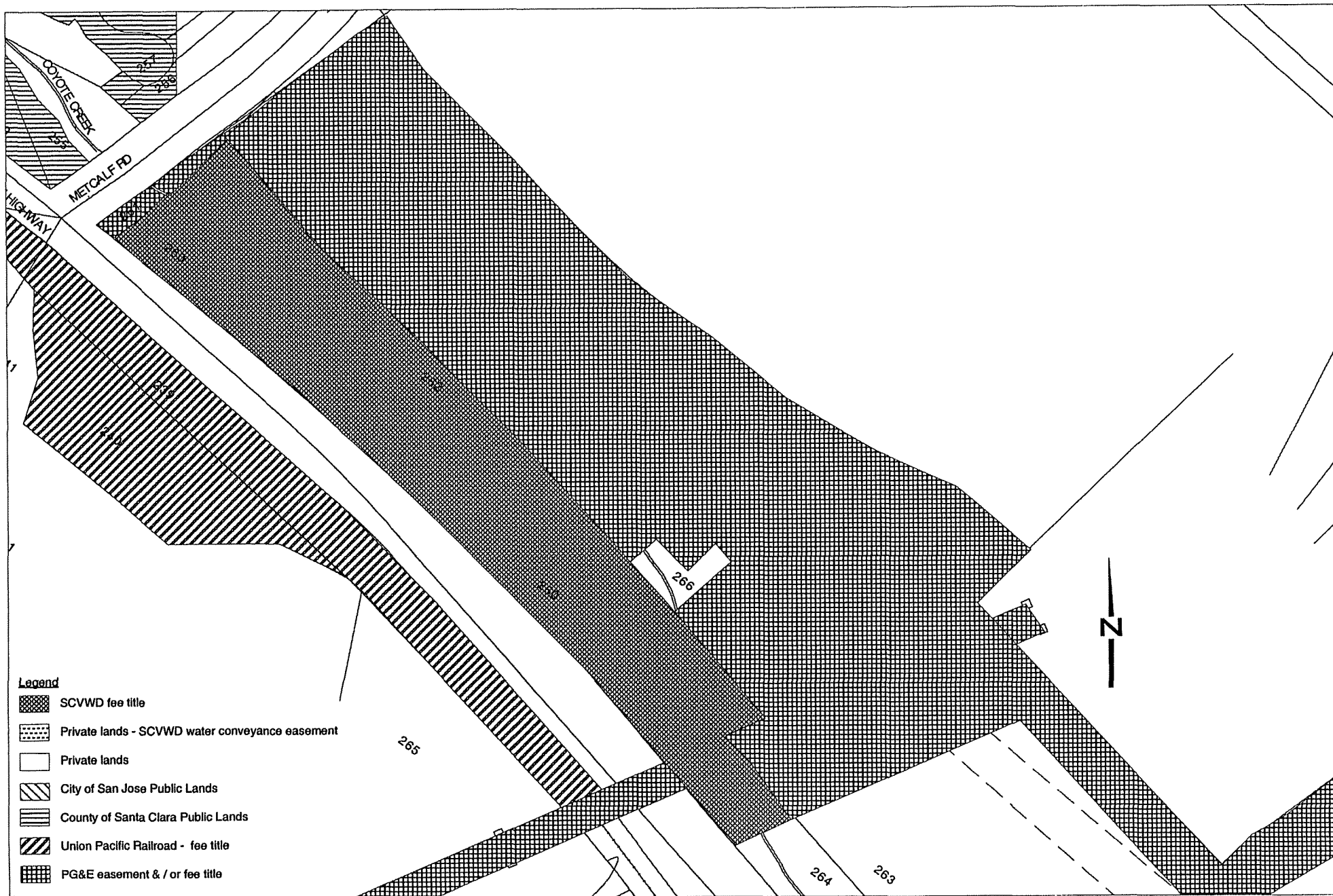


APPENDIX D - CANAL OWNERSHIP MAPS

Sheet 14 of 15



**Coyote -Alamitos Canal /Santa Teresa Corridor Trail
Feasibility Study**



APPENDIX D - CANAL OWNERSHIP MAPS

Coyote Alamos Canal / Santa Teresa Trail Corridor

Appendix E
City of San José Land Use & Zoning Maps

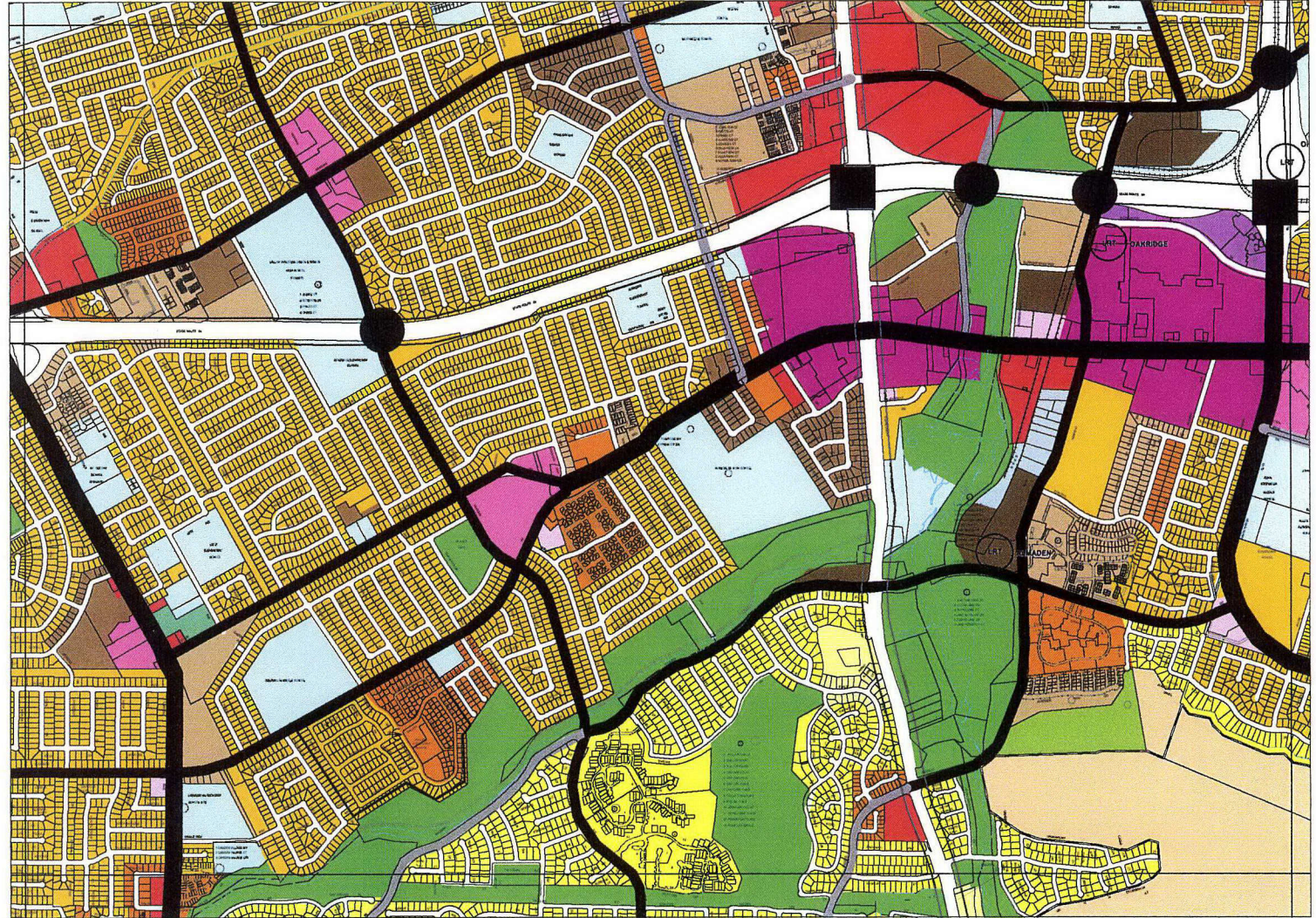
San Jose

2020

Land Use / Transportation Diagram



*** Planned Communities:**
Because of the unique or special characteristics of Planned Communities, a special Land Use Plan and other information concerning potential development in these areas is contained in the text portion of the General Plan



General Plan
Land Use / Transportation Diagram



Department of Planning, Building & Code Enforcement
Planning Services Division

Scale: 1" = 600'
Updated: May 15, 2003



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| 113 | 114 | 115 |
| 127 | 128 | 129 |
| 140 | 141 | 142 |

128

San Jose

2020

Land Use / Transportation Diagram

- Rural Residential (8.2 DU/AC)
- Estate Residential (1/8 DU/AC)
- Very Low Density Residential (2.0 DU/AC)
- Low Density Residential (5 DU/AC)
- Medium Low Density Residential (8.8 DU/AC)
- Medium Density Residential (16.4 DU/AC)
- Medium High Density Residential (12-25 DU/AC)
- High Density Residential (25-50 DU/AC)
- Transit Corridor Residential (20+ DU/AC)
- Residential Support for the City Area (15+ DU/AC)
- Planned Community *
- Urban Reserve
- Neighborhood/Community Commercial
- Regional Commercial
- General Commercial
- City Area
- Combined Residential/Commercial
- Office
- Airport Approach
- Solid Waste Disposal Site
- Candidate Solid Waste Disposal Site
- Urban Service Area Boundary
- Urban Growth Boundary
- Rail Line
- State Transportation Corridor
- Expressway
- City Council District
- Industrial Park
- Administrative Office/Research & Development
- Research/Development
- Campus Industrial
- Light Industrial
- Heavy Industrial
- Combined Industrial/Commercial
- Public/Quasi-Public
- Area of Historic Sensitivity
- Neighborhood Business District
- Public Park/Open Space
- Private Open Space
- Private Recreation
- Non-Urban Hillside
- Urban Hillside
- Agriculture
- Coyote Greenbelt
- Mixed Use Overlay
- Transit-Oriented Development Corridor
- Mixed Industrial Overlay
- Light Rail Station
- Costumer Designation
- Interchange
- Separation
- Arterial (115-130 ft.)
- Arterial (80-100 ft.)
- Major Collector (60-80 ft.)

* Planned Communities:

Because of the unique or special characteristics of Planned Communities, a special Land Use Plan and other information concerning potential development in these areas is contained in the text portion of the General Plan

General Plan

Land Use / Transportation Diagram



Department of Planning, Building & Code Enforcement

Planning Services Division

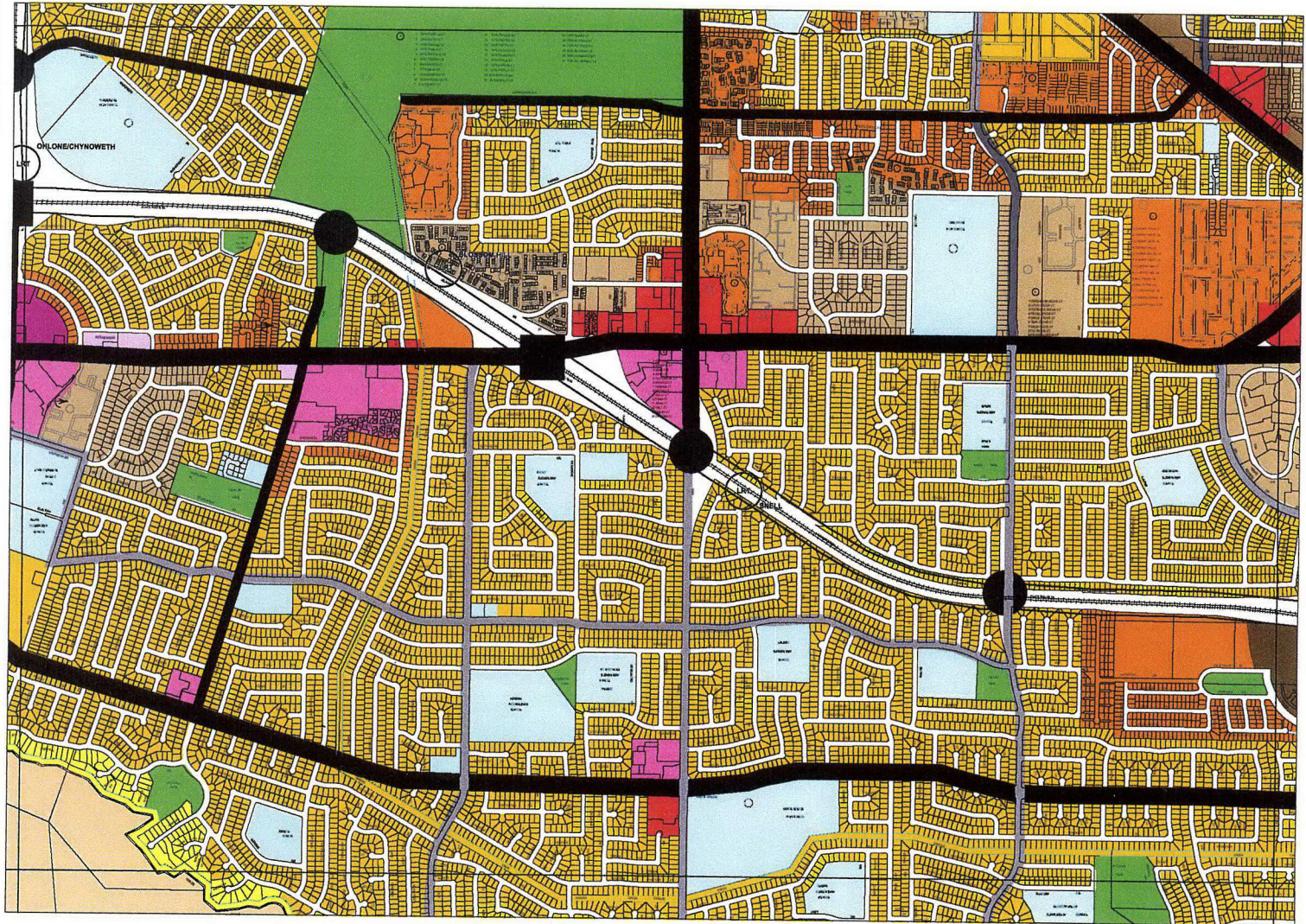
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Updated: May 15, 2003



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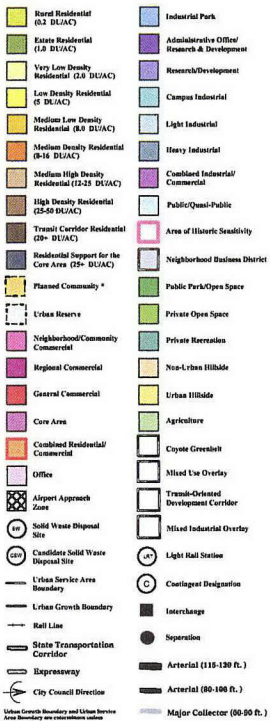
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San Jose

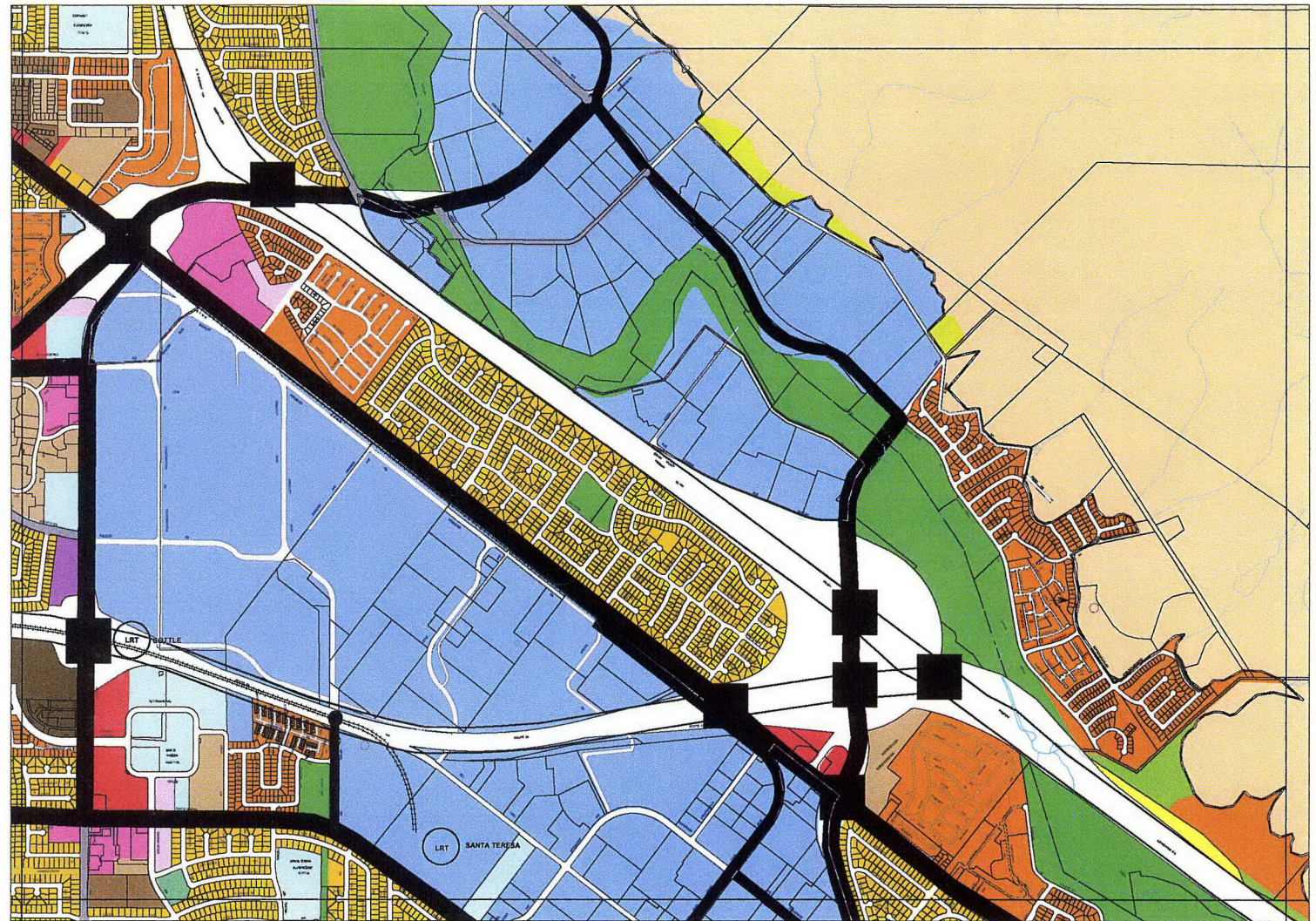
2020

Land Use / Transportation Diagram



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General Plan
Land Use / Transportation Diagram



Department of Planning, Building & Code Enforcement
Planning Services Division

Scale: 1" = 600'
Updated: May 15, 2003



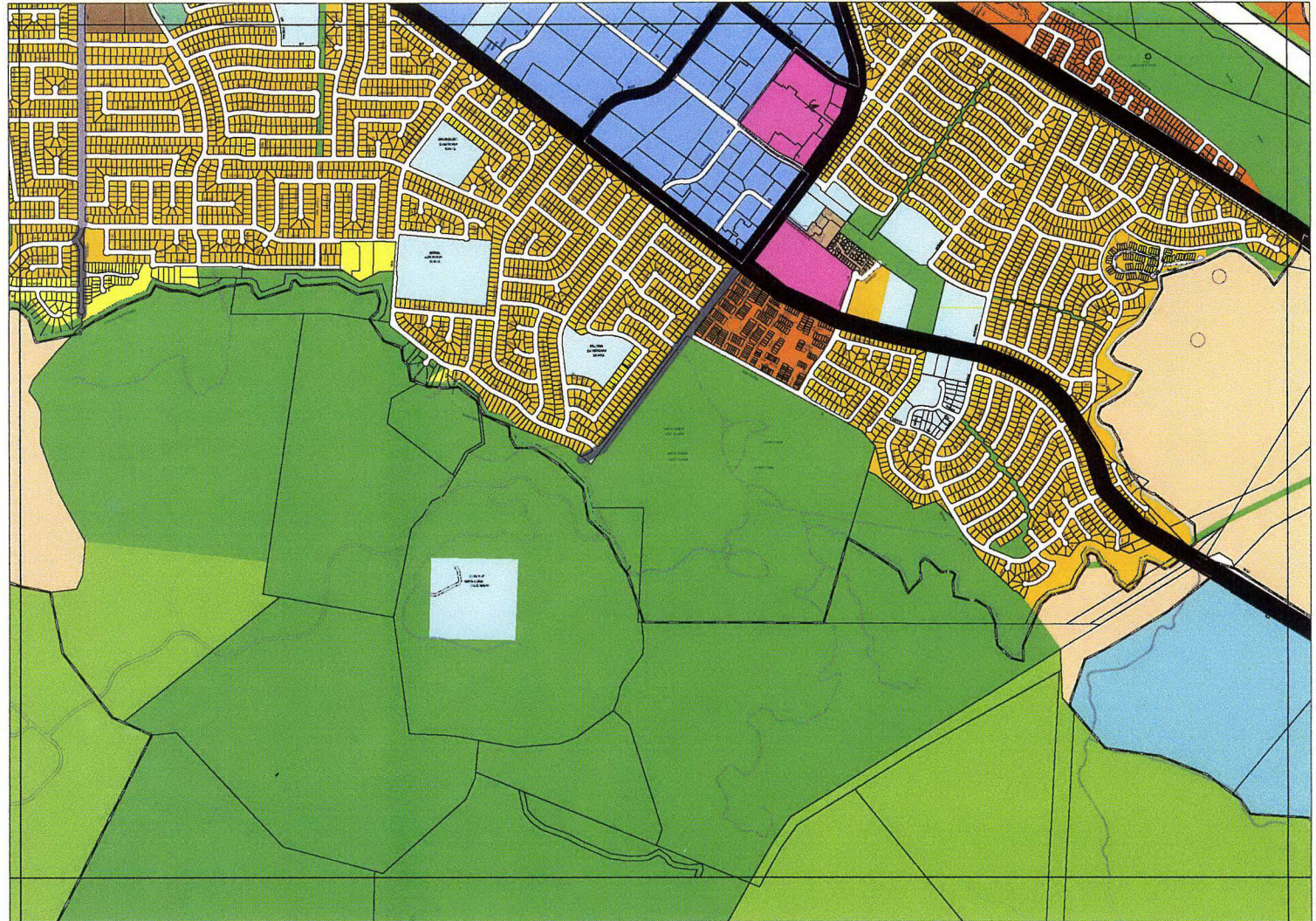
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130

Land Use /
Transportation Diagram



***Planned Communities:**
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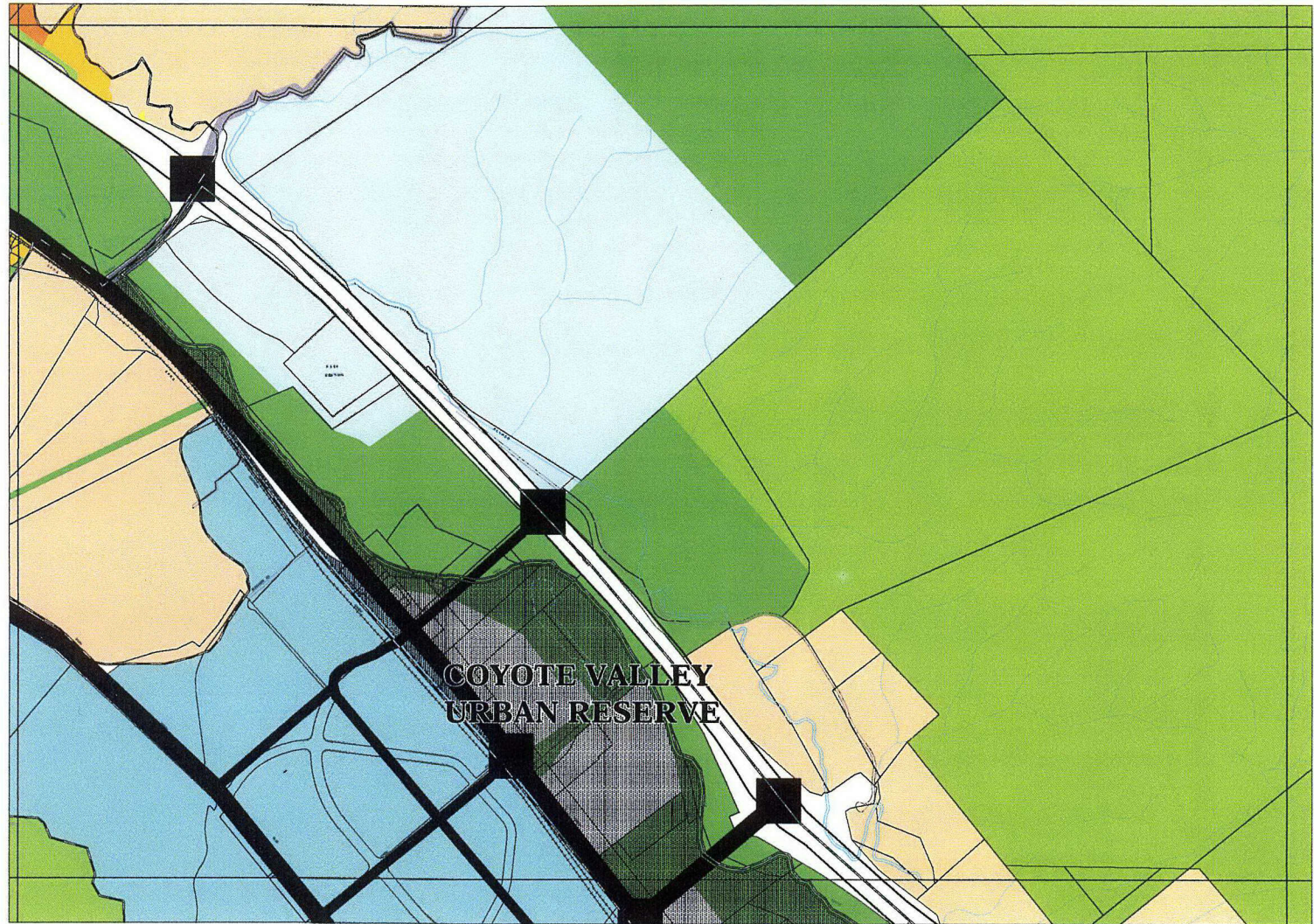


Land Use /
Transportation Diagram



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| 130 | 131 | 132 |
| 143 | 144 | 145 |
| 156 | 157 | 158 |

Zoning Districts

- OS.....Open Space
 A.....Agricultural
 R-1-8
 R-1-5.....Single-Family Residential
 R-1-2
 R-1-1
 R-2.....Two-Family Residential
 R-M.....Multi-Family Residential
 R-1-RR.....Rural Residential
 R-MH.....Mobilehome Residential
 CO.....Commercial Office
 CP.....Commercial Pedestrian
 CN.....Commercial Neighborhood
 CG.....Commercial General
 IP.....Industrial Park
 LI.....Light Industrial
 HI.....Heavy Industrial
 (PD).....Planned Development
 (overlay district that is combined with one of
 the conventional zoning districts listed above,
 that allows any specifically approved use or uses)

Zoning Labels (Sample)

- A(PD).....Zoning District
 93050.....Zone Change File Number
 (e.g., PDC93-08-050)
 34.0 DU/A.....Approved Residential Density
 (dwelling units per acre)

Map Legend

-Zone District Boundary
Historic District Boundary
 (work requires Planning permit)
 ★.....Historic City Landmark
 (work requires Planning permit)



Zoning Map

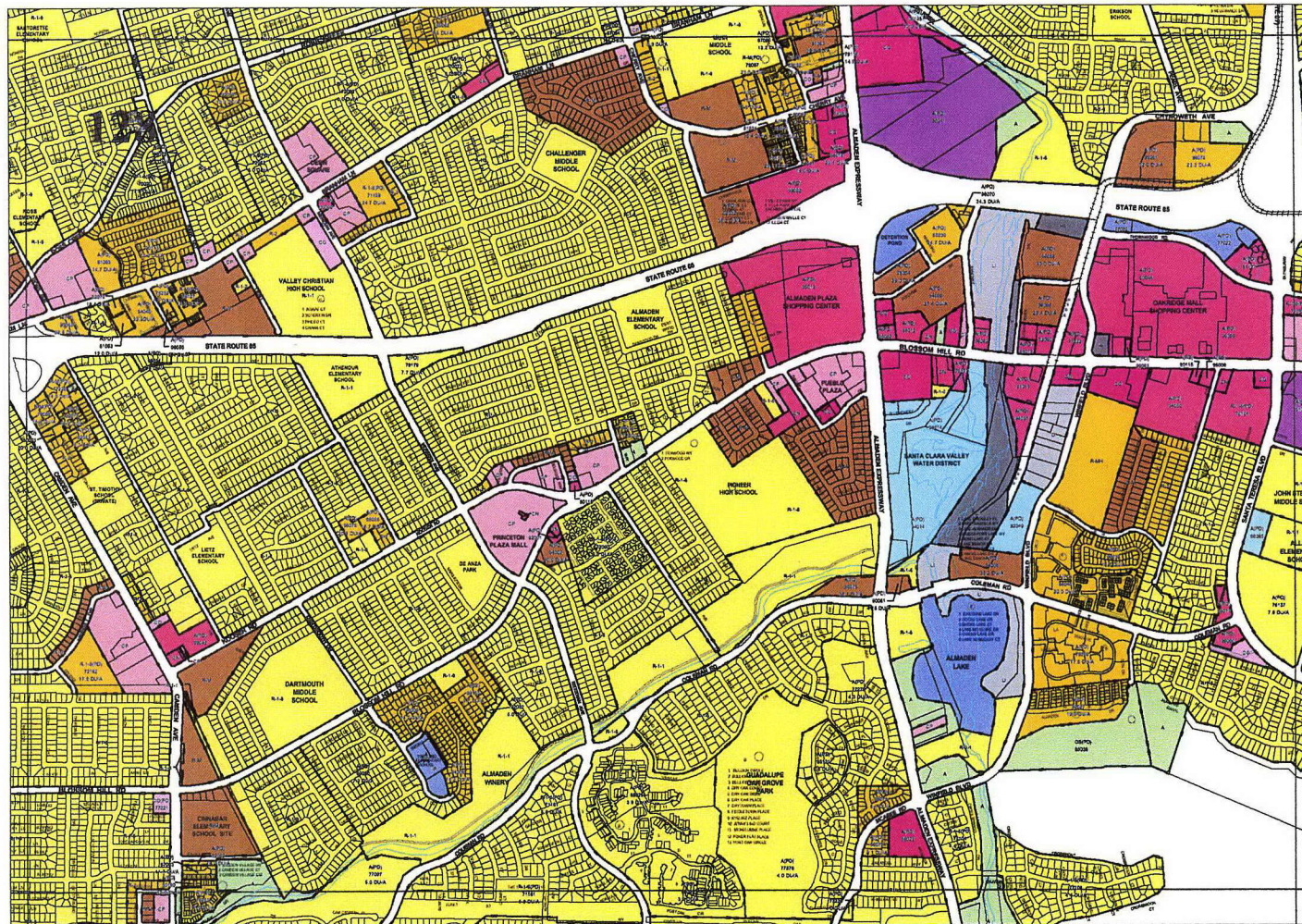
Department of Planning, Building & Code Enforcement
 Planning Services Division

Scale: 1"=600'
 Updated: Jan. 1, 2003



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128



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 (work requires Planning permit)
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Zoning Map

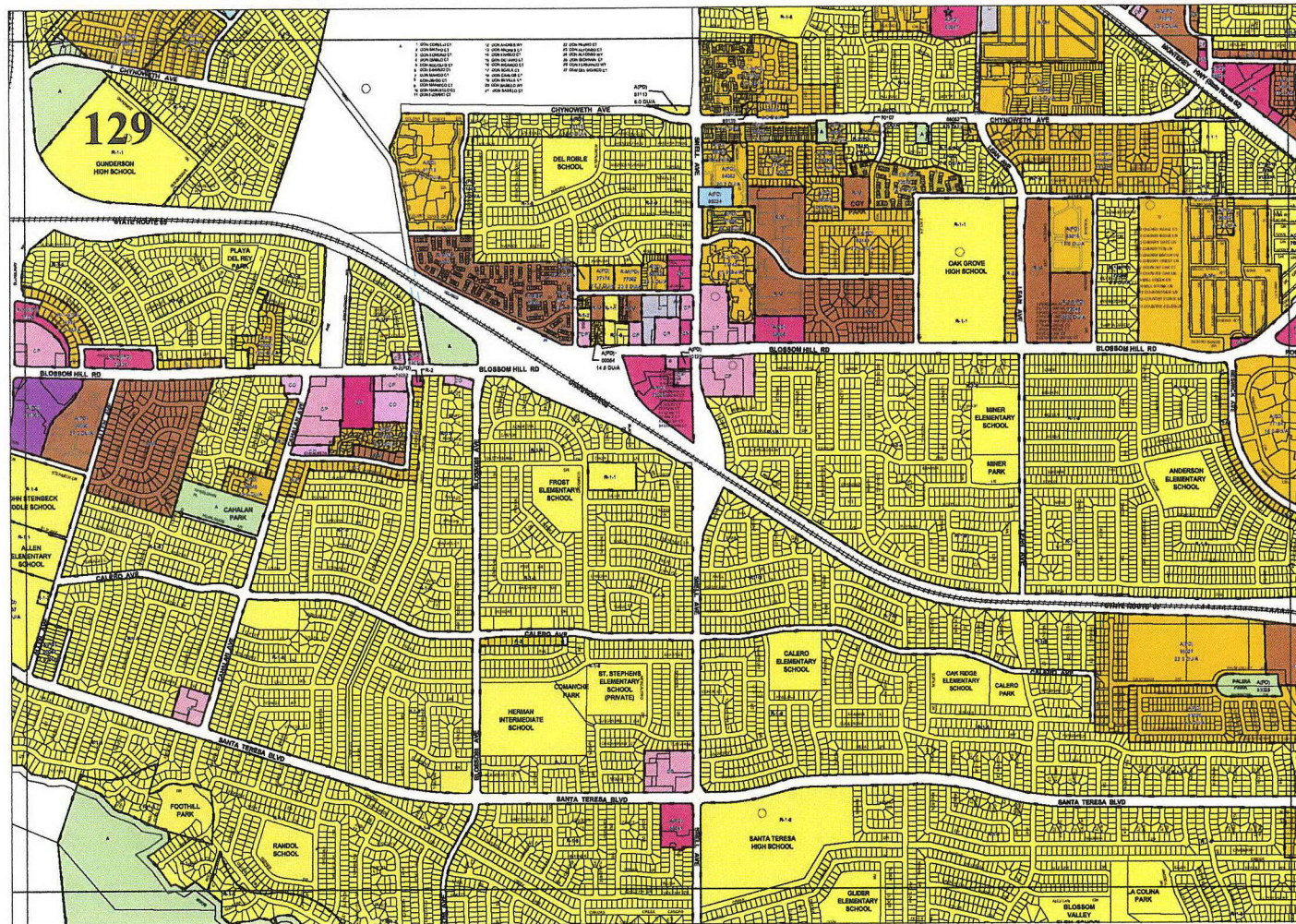
Department of Planning, Building & Code Enforcement
 Planning Services Division

Scale: 1"=600'
 Updated: May 27, 2003



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Zoning Districts

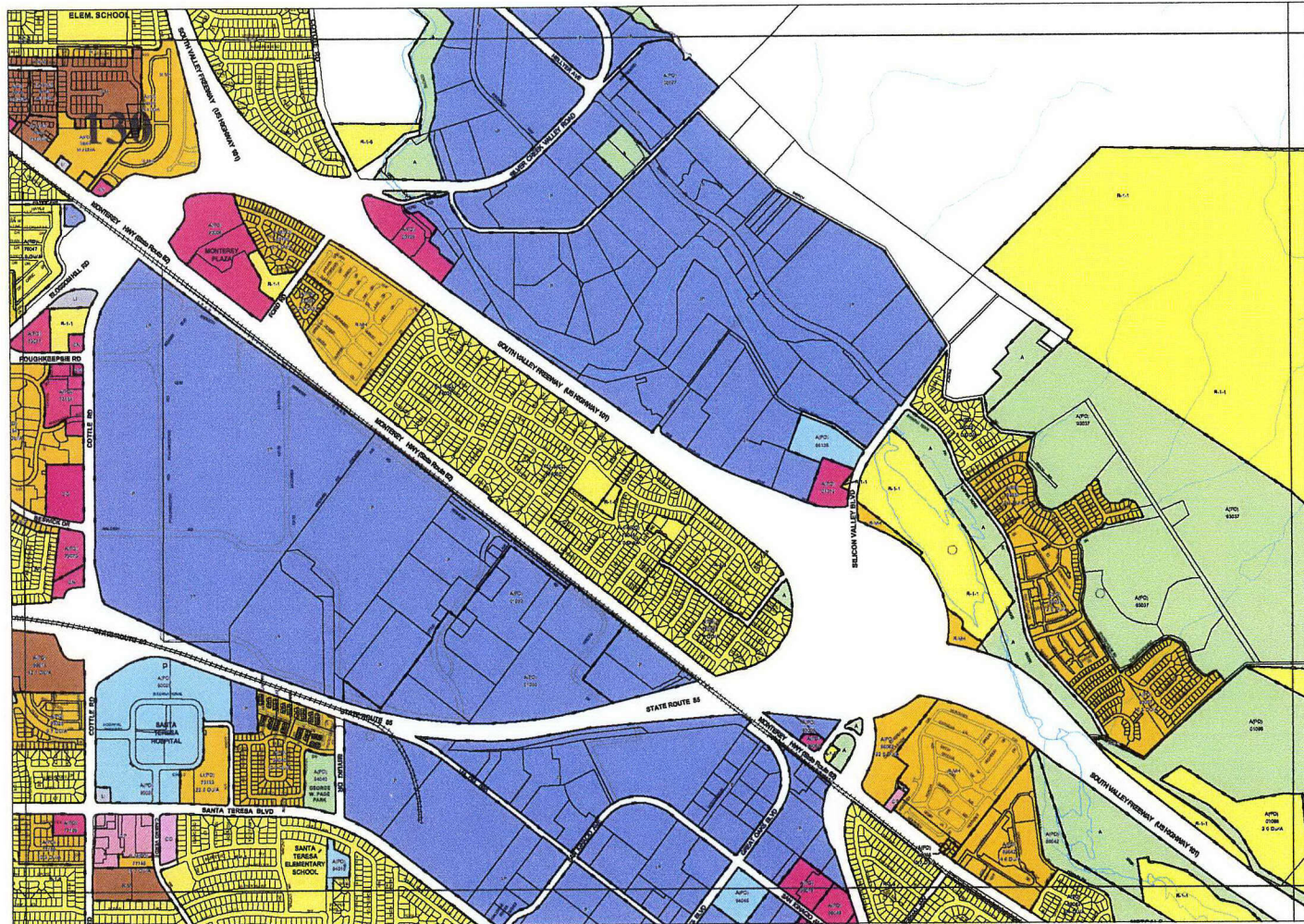
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Zoning Map

Department of Planning, Building & Code Enforcement
 Planning Services Division

Scale: 1"=600'
 Updated: May 27, 2003



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Map Legend

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 (work requires Planning permit)
 ★Historic City Landmark
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Zoning Map

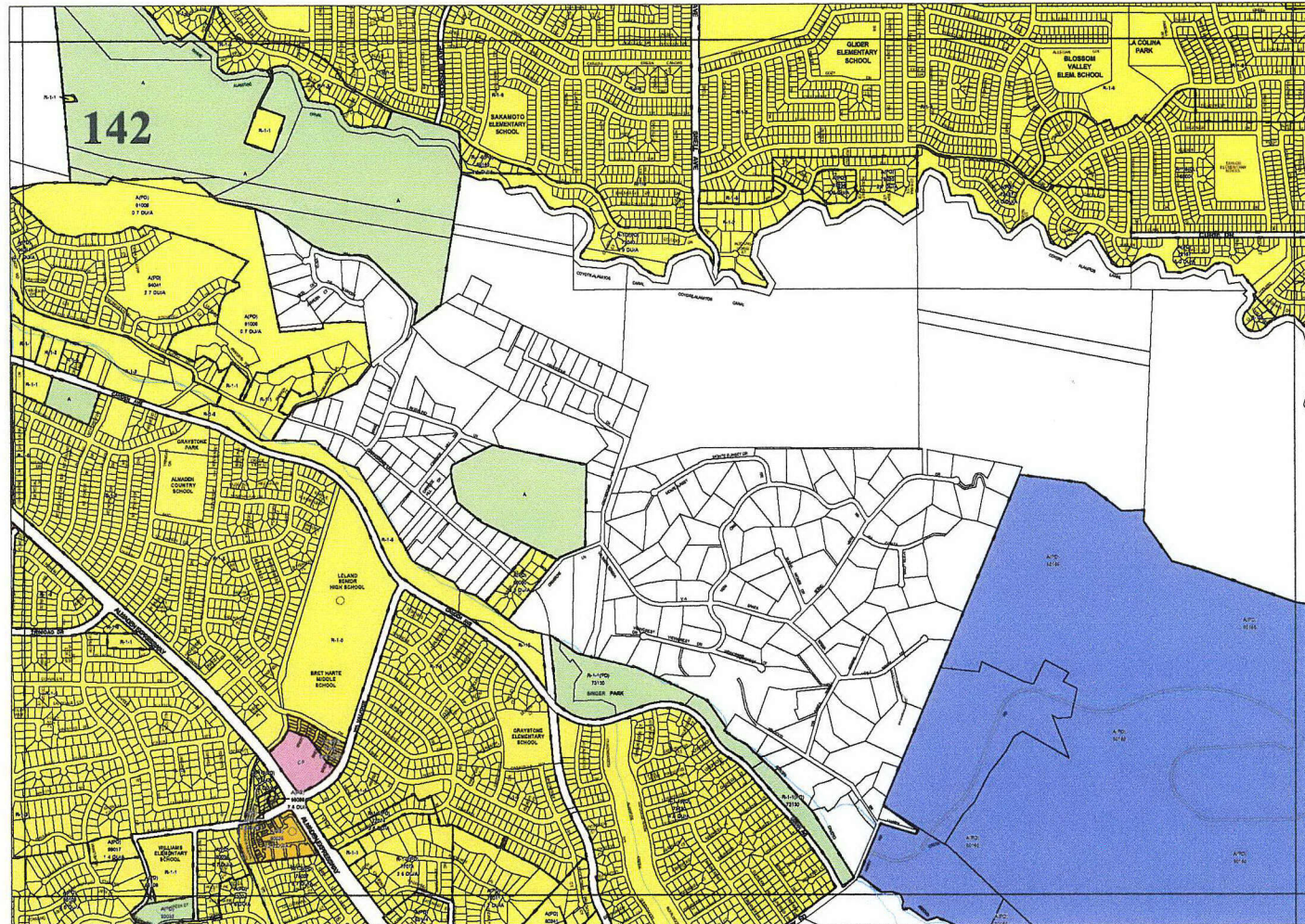
Department of Planning, Building & Code Enforcement
 Planning Services Division

Scale: 1"=600'
 Updated: Jan. 1, 2003



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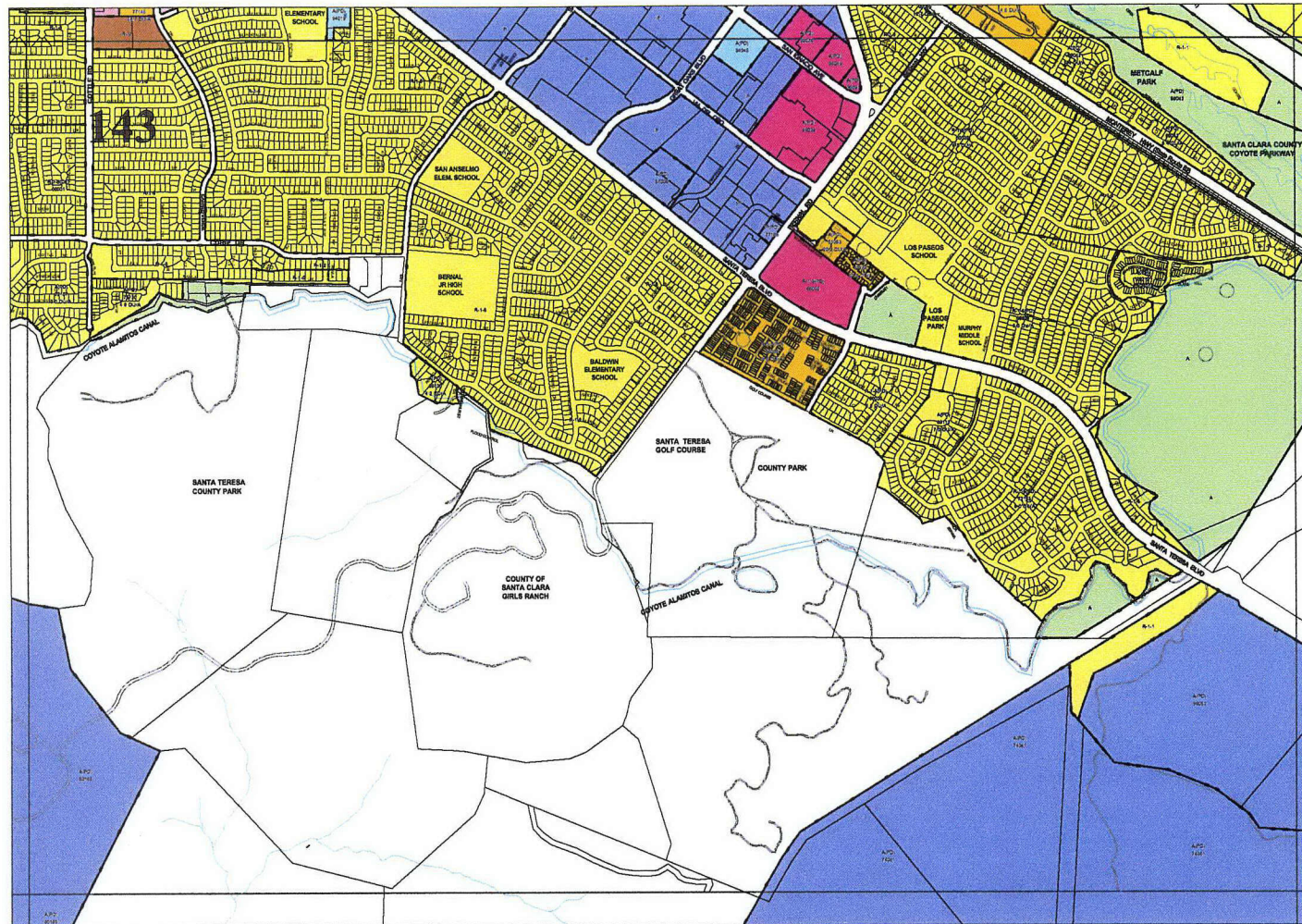
Department of Planning, Building & Code Enforcement
 Planning Services Division

Scale: 1"=600'
 Updated: Feb. 18, 2003



| | | |
|-----|-----|-----|
| 129 | 130 | 131 |
| 142 | 143 | 144 |
| 155 | 156 | 157 |

143



Zoning Districts

- OS.....Open Space
A.....Agricultural
R-1-8
R-1-5.....Single-Family Residential
R-1-2
R-1-1
R-2.....Two-Family Residential
R-M.....Multi-Family Residential
R-1-RR.....Rural Residential
R-MH.....Mobilehome Residential
CO.....Commercial Office
CP.....Commercial Pedestrian
CN.....Commercial Neighborhood
CG.....Commercial General
IP.....Industrial Park
LI.....Light Industrial
HI.....Heavy Industrial
(PD).....Planned Development
(overlay district that is combined with one of
the conventional zoning districts listed above,
that allows any specifically approved use or uses)

Zoning Labels (Sample)

- A(PD).....Zoning District
93050.....Zone Change File Number
(e.g., PDC93-08-050)
34.0 DU/A.....Approved Residential Density
(dwelling units per acre)

Map Legend

-Zone District Boundary
.....Historic District Boundary
(work requires Planning permit)
★.....Historic City Landmark
(work requires Planning permit)



Zoning Map

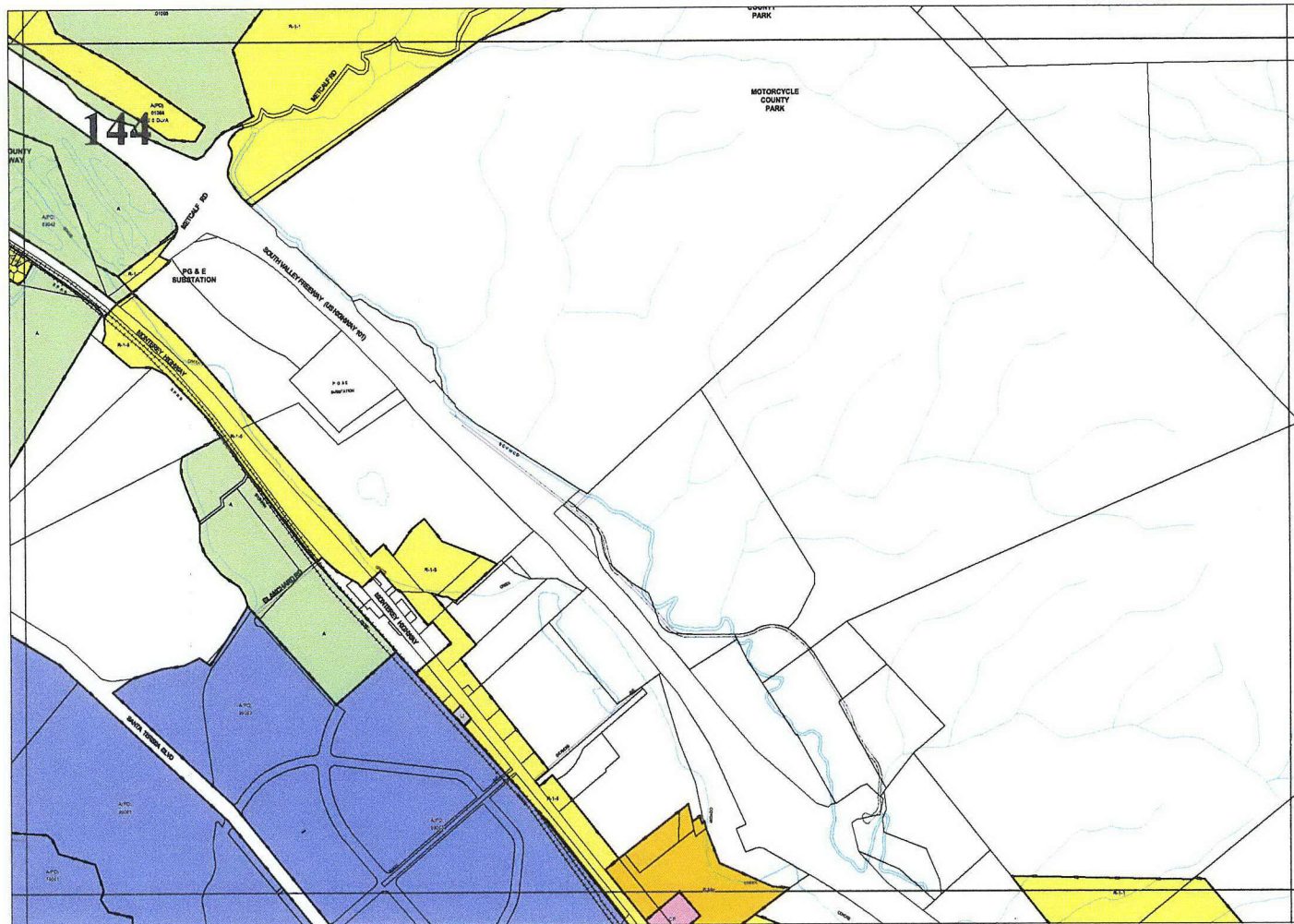
Department of Planning, Building & Code Enforcement
Planning Services Division

Scale: 1"=600'
Updated: Feb. 18, 2003



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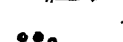
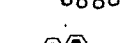
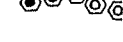

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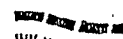


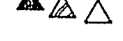



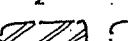


Coyote Alamos Canal / Santa Teresa Trail Corridor

Appendix F
Santa Teresa County Park Trails, Roads, & Parking Map

LEGEND

-  MULTI-USE TRAILS
-  Bay Area Ridge Trail
-  SELECTIVE-USE TRAILS
-  Pedestrian Only
-  Whole Access / Pedestrian Only
-  TEMPORARY STUDY RESTRICTIONS

-  ROADS
-  PARKING
-  TRAILHEADS
-  AT-GRADE ROAD CROSSINGS

- PHASES**
- 1  2  3 
-  Use Designation

- (M-8)
- Width (ft.)
- Surface: Earth, typ.,
DG, Decomp. Granite,
AC, Paved Surface

CONSULTANTS:

■ TITO PATRI & ASSOCIATES
LANDSCAPE ARCHITECTURE
1620 MONTGOMERY #140
SAN FRANCISCO, CA.
TEL. 415-886 8811

■ APPLIED EARTH TECHNOLOGY - REDWOOD CITY, CA.
ROBINSON & ASSOCIATES - CIVIL ENGINEERS - SAN JOSE, CA.
PANG & ASSOCIATES - TRAFFIC ENGINEERS - NTH. VIEW, CA.
ARCHAEOLOGICAL RESOURCE MGT. - SAN JOSE, CA.
HABITAT RESTORATION GROUP - SCOTTS VALLEY, CA.
ALTON & DAVID LEE - ARCHITECTS - MENLO PARK, CA.

FOR:

■ SANTA CLARA COUNTY
PARKS & RECREATION DEPT.
265 GARDEN HILL DRIVE
LOS GATOS, CALIFORNIA
95030 408/859-3741

P.A.A. CONTRACT #1
JANUARY 30, 1990

NOTES:

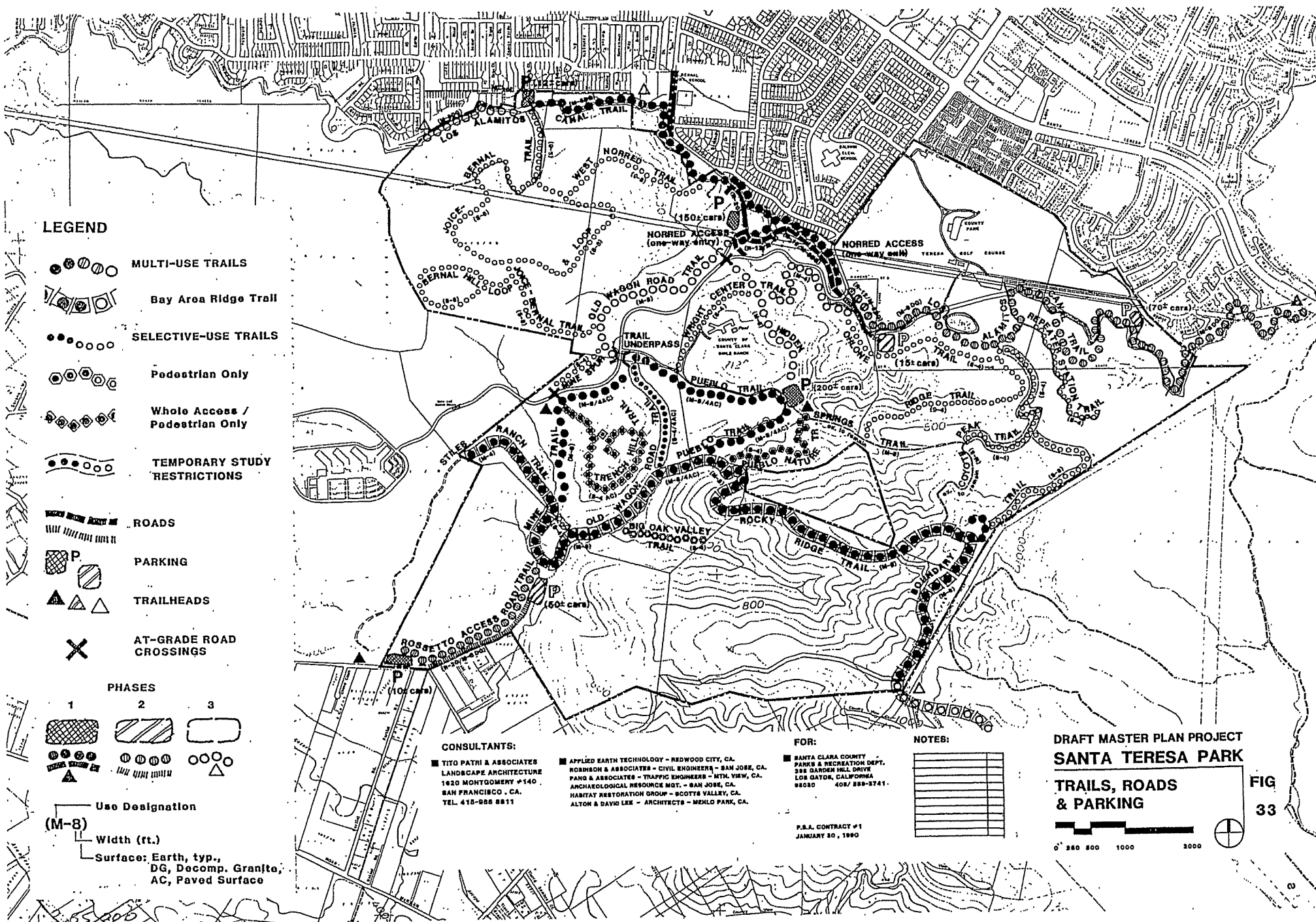
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DRAFT MASTER PLAN PROJECT SANTA TERESA PARK

TRAILS, ROADS & PARKING

0' 250' 500' 1000' 1500'

FIG
33



Appendix G
Acquisition Plans & Priorities
for the Santa Teresa Hills

Appendix G

Santa Clara County Open Space Authority Study Areas¹

Study Areas: An Overview

The Santa Clara County Open Space Authority uses its Five-Year Plan, which is reviewed annually, to address the increasingly critical need within our region for preservation of diminishing Open Space, Agricultural Lands, Watershed, and Wildlife Habitat.

Now that an active land acquisition program has begun within the Authority this overview of Study Area is available to guide the Authority as it moves forward to meet this challenge on behalf of the public. The purpose of these Study Areas is twofold. 1) To help clarify specific geographic areas of interest to the Authority, and 2) To identify the types of natural resources (Open Space, Agricultural Land, View shed, Habitat, etc.) that the public may expect the Authority to preserve through development of a land acquisition program in that geographic vicinity.

The Study Areas in which the Authority operates are intended to be contiguous or shared with many other jurisdictions, making these preservation objectives regional and multi-agency in nature. The Authority is poised to accomplish much, but success is dependent on a cooperative effort among: all neighboring cities, counties, agencies, as well as the public.

Each description outlines the resources within Study Area that the Board has determined are significant and which contribute to the criteria the Board may use to establish priorities for potential acquisitions. They are consisted with the resources and guidelines outlined in the Authority's Acquisition Criteria, as shown in the Five Year Plan. They will also create a focused framework for gathering any additional information that the Board may find useful in developing its acquisition priorities for each Area.

Development of a Study Area description is intended for planning and information purposes only and does not signify a commitment to purchase any lands, nor does it commit how the lands may be used. While the descriptions may outline extensive areas desirable for preservation, not all lands may be acquired within any given Study Area. Nor is this document intended to change the Five Year Plan or its "Open Space Opportunities Map", but it is to clarify geographic areas of interest and the resource protection goals that would be achieved by seeking to preserve land in these areas.

Santa Teresa Ridge Study Area

This 1,500-acre Study Area adjoins a high level of urban development, and as such represents a compelling and urgent opportunity to preserve wildlife habitat, view shed, and recreational trail possibilities. To the southeast, this prominent ridge remains in its natural condition and abuts Santa Teresa County Park. This connection could, in effect, make it an Open Space 'gateway' to the County Park and thus create an interrelationship with the Authority's Western Watershed Study Area further to the south. To the southwest, the Almaden Valley side of this ridge has been developed, while to the northeast the development of south San Jose is prevalent.

Existing fire roads and the Santa Clara Valley Water district canal service road provide the potential for trail opportunities in this Area. Trail connections could include links into Santa Teresa County Park and through that into the Western Watershed Study Area, Calero and Almaden Quicksilver County Parks, and ultimately to Midpeninsula Regional Open Space District lands.

Acquisitions in this Area could preserve the ridge's view shed, ensuring that the scenic backdrop to the surrounding areas will remain. Further, protection of this area will help to prevent the further reduction of wildlife habitat for several varieties of mammals, reptiles, amphibians, birds, and insects.

¹ Source: <http://www.openspaceauthority.org>

Study Areas of the 5 Year Plan



Santa Clara County
Open Space Authority

- Authority Boundary
- Open Space Authority

Other Public and/or
Private Protected Lands

- Easement
- Fee

Study Areas

- Milpitas-Berryessa
- Arroyo Aguague
- Evergreen
- Santa Teresa Hills
- Baylands
- Coyote Ridge
- Western Watershed
- Upper Coyote
- Coyote Valley Greenbelt
- South County Agriculture

5-Year Plan:
Future Study Areas

City Jurisdiction

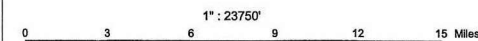
County Boundary

San Jose Greenline

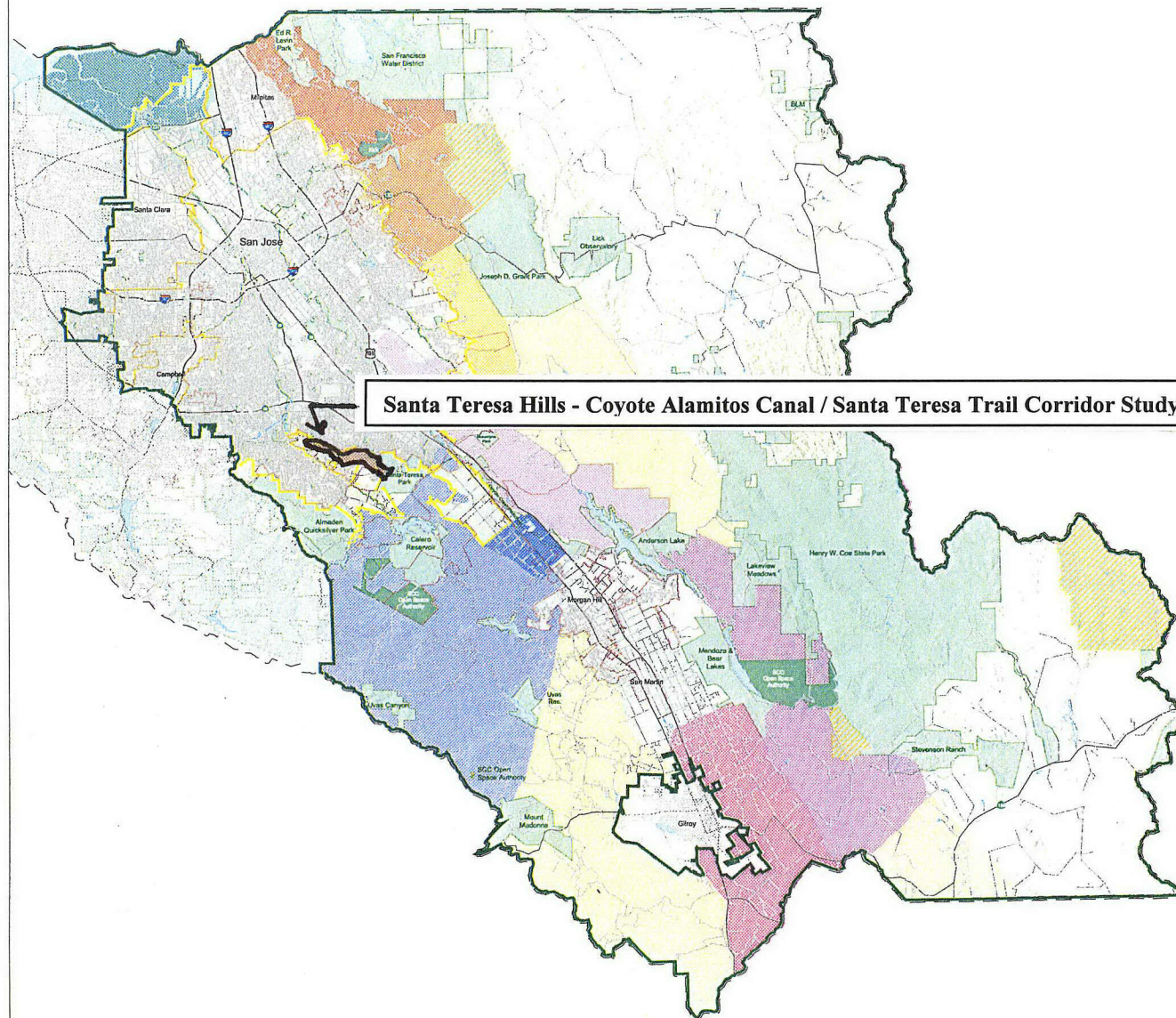


Public and/or Protected Lands from
Open Space Authority, POST, MROSD,
GreenInfo Network, 2000.

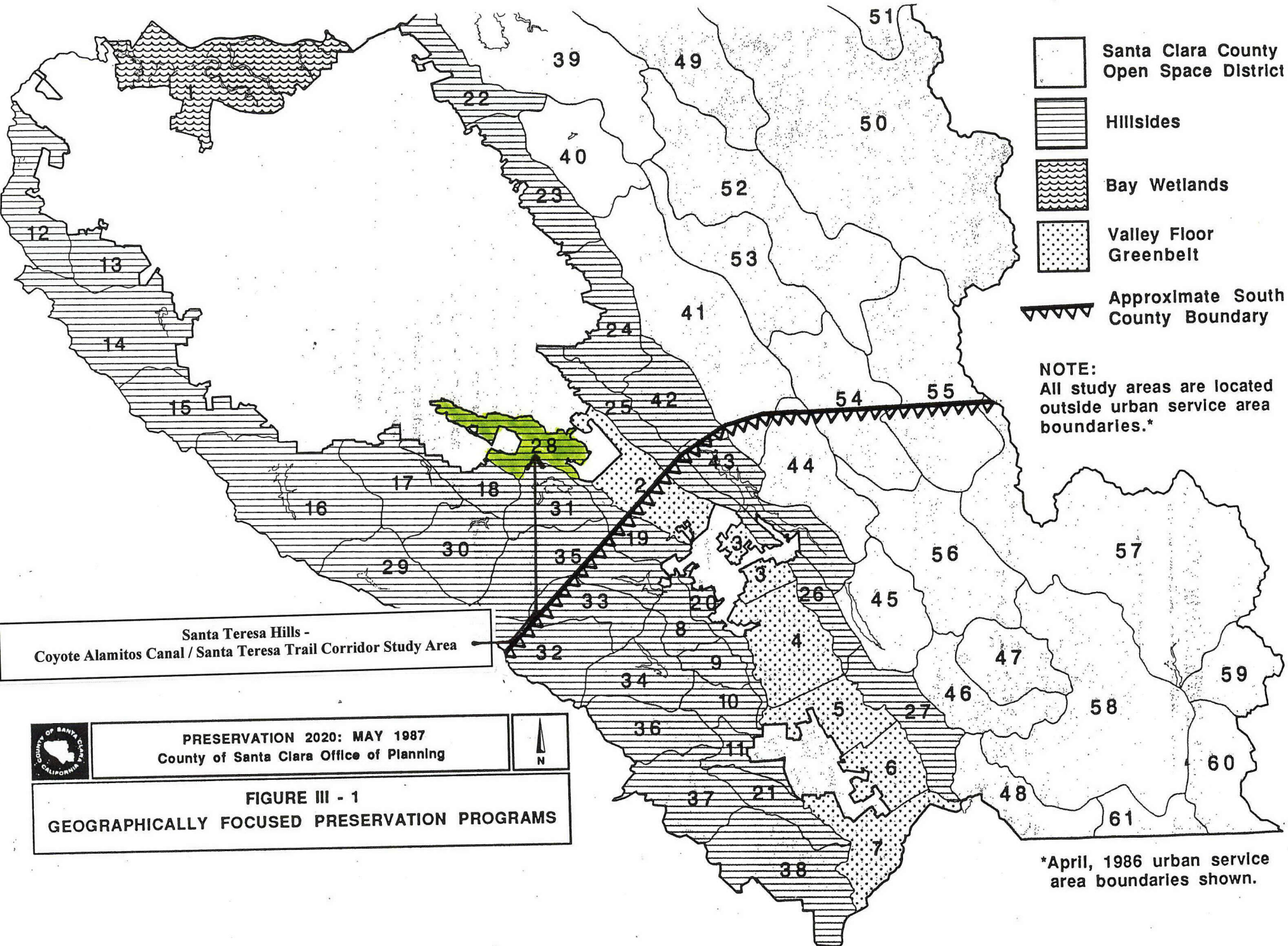
Map Projection: UTM Zone 10, NAD 27
January, 2001



Study area boundaries are for representational purposes only, and are not intended as legal descriptions.



Santa Teresa Hills - Coyote Alamitos Canal / Santa Teresa Trail Corridor Study Area



- Santa Clara County Open Space District
- Hillside
- Bay Wetlands
- Valley Floor Greenbelt
- Approximate South County Boundary

NOTE:
All study areas are located outside urban service area boundaries.*

Santa Teresa Hills -
Coyote Alamos Canal / Santa Teresa Trail Corridor Study Area



PRESERVATION 2020: MAY 1987
County of Santa Clara Office of Planning



FIGURE III - 1
GEOGRAPHICALLY FOCUSED PRESERVATION PROGRAMS

*April, 1986 urban service area boundaries shown.

FIGURE IV - 4: OPEN SPACE ACQUISITION PRIORITIES

| RANK | STUDY AREA NAME AND IDENTIFYING NUMBER | CRITERIA | | | | | |
|---|---|---------------------------------|------------------------|-------------------------------|------------------------------|-----------------------------------|------------------------------------|
| | | RESOURCES TO BE PROTECTED | RE- SOURCE VALUE | AC- CESS/ LOCA- TION | PAR- CEL- IZA- TION | VULNER- ABILITY TO DEVEL | PUBLIC LANDS CONTI- GUITY |
| 1 | SANTA TERESA (28) | VS,BF,AR,H8,NH1CE | A | A | C | A | A |
| 2 | LEXINGTON (16) | WS,VS,BF,H5,H9 | A | A | A | A | B |
| 3 | NEW ALMADEN (18) | WS,VS,BF,H7 | A | A | C | A | A |
| 4 | ALUM ROCK FOOTHILLS (23) | VS,BF,H2 | A | A | A | B(W) | C |
| 5 | EAST COYOTE FOOTHILLS (25) | VS,BF,NH7CE | A | A | D | A | E |
| 6 | EAST BERRYESSA FOOTHILLS (22) | VS,BF,NH1 | A | A | C | B(W) | B |
| 7 | EAST SAN MARTIN FOOTHILLS (26) | VS,BF,H10 | A | A | B | B(W) | E |
| 8 | EAST GILROY FOOTHILLS (27) | VS,BF,AR,H15 | A | A | D | B(W) | E |
| 9 | SANBORN SKYLINE (15) | WS,VS,BF,H4 | B | A | B | B | A |
| 10 | LOS TRANCOS/FELT LAKE (12) | WS,VS,BF,H1 | A | B | C | B(S,W) | A |
| 11 | BAY ZONE (1) | BF,NH10 | A | B | C | B(W)* | A |
| 12 | EAST SAN JOSE FOOTHILLS (24) | VS,BF | B | A | D | B(W) | E |
| 13 | STEVENS CREEK (14) | WS,VS,BF,H4,NH6 | B | B | D | B | B |
| 14 | WEST VALLEY FOOTHILLS (20) | VS,BF | A | A | B | C(W) | E |
| 15 | CALERO (31) | WS | B | B | C | C | A |
| 16 | GUADALUPE WATERSHED (17) | WS,VS,BF,H6,NH7,8 | B | B | D | C(S,W) | B |
| 17 | ANDERSON LAKE (43) | WS,NH9 | B | B | B | B | A |
| 18 | UPPER LOS GATOS (29) | WS,VS | A | B | C | C | C |
| 19 | DAY ROAD (10) | WS,VS,BF,AR,NH2BC | B | B | C | B | E |
| 20 | LOWER UVAS (11) | BF,AR,H14,NH2BC | B | B | A | A | E |
| 21 | WEST COYOTE FOOTHILLS (19) | VS,BF,AR | A | A | D | C(W) | E |
| 22 | HALLS/SAN FELIPE VALLEY (41) | WS,H3 | B | B | E | C(W) | B |
| 23 | REDWOOD RETREAT (36) | WS,VS,AR,NH2BC, H12, H13 | B | B | C | D(S,W) | C |
| 24 | PERMANENTE (13) | WS,VS,BF | B | B | E | C(CORP) | A |
| 25 | PARADISE VALLEY (8) | WS,VS,BF | C | B | C | C(S) | D |
| 26 | HAYES (9) | WS,VS,BF | B | B | D | B | E |
| 27 | GAVILAN FOOTHILLS (21) | VS,BF | A | C | D | D(S,W) | E |
| 28 | UVAS RESERVOIR/EASTMAN (34) | WS,VS,AR | B | C | C | D(S,W) | C |
| 29 | LLAGAS/CHESBRO (35) | WS,VS | B | C | C | D(S,W) | C |
| 30 | HECKER PASS (37) | WS,VS,AR,NH2BC | B | B | D | D(S,W) | B |
| 31 | LITTLE UVAS WATERSHED (33) | WS | B | C | C | D(S,W) | D |
| 32 | TWIN CREEKS (30) | WS,VS | B | C | C | D(S,W) | C |
| 33 | ALUM ROCK WATERSHED (40) | WS | B | C | D | D(S,W) | B |
| 34 | CALAVERAS/ARROYO HONDO (39) | WS,NH2 | B | C | D | D(W) | A |
| 35 | SHINGLE VALLEY (42) | WS | B | B | E | C(W, CORP) | D |
| 36 | CANADA DE LOS OSOS (46) | WS,NH4AD | B | C | D | D(W) | E |
| 37 | UVAS WATERSHED (32) | WS,VS | B | D | C | D(S,W) | B |
| 38 | COYOTE LAKE/TIMBER RIDGE (45) | WS,NH5AD | B | C | E | D(S,W) | C |
| 39 | PACKWOOD/LOWER COE (44) | WS,NH8AD | B | D | D | D(S,W) | C |
| 40 | PESCADERO/TAR CREEK (38) | WS,H23 | B | D | E | E(S,W) | E |
| 41 | SAN FELIPE/PACHECO (48) | WS,AR,H20 | C | D | D | D(W) | E |
| 42 | HUNTING HOLLOW (47) | WS,NH4AD | C | D | D | D(W) | E |
| * This is an exception to only examining the open space situation outside the cities' Urban Service Areas. Vulnerability to development in the Baylands occurs mainly within the cities. | | | | | | | |

Appendix H
Consistency with Plans Guiding Trail Development

Appendix H

Consistency with Plans Guiding Trail Development

| Planning Document | Vision for Trails | Inclusion in Planning Document | Consistency with Document Policies |
|--|---|---|---|
| City of San José General Plan – Scenic Routes and Trails Diagram (2020 update) (1) | The General Plan Scenic Routes and Trails Diagram consists of a network of approximately 110 miles of interconnecting trails that provide (or will provide) links to parks and open spaces within the City, as well as neighboring cities. | In 2002 the City of San José amended the <i>General Plan - Scenic Routes and Trails Diagram</i> adding the existing Coyote Alamos Canal as a future Trails and Pathways Corridor. | Development of Coyote-Alamos Canal Trail would be consistent with the City General Plan. |
| City of San José Greenprint, a 20-year Strategic Plan for Parks, Community Facilities and Programs | <p>The <i>Greenprint</i> establishes new priorities, creates new connections, and solicits new help and partnerships to create a more livable San José including the creation of a citywide network of alternative transportation modes.</p> <p>The major trail improvements proposed in the <i>Greenprint</i> for District 2 are to “develop trails along Fisher Creek in conjunction with the Bay Area Ridge Trail Valley Crossing in North Coyote Valley”. The major trail improvements proposed in the <i>Greenprint</i> for District 10 are to “expand and connect Los Alamos, Guadalupe Creek, and the Guadalupe River Trails”.</p> | The Coyote Alamos Canal Trail is not identified in the <i>Greenprint</i> . However, the <i>Greenprint</i> recommends implementation of trails identified in the <i>General Plan - Scenic Routes and Trails Diagram</i> . The <i>Greenprint</i> also stresses that trail development within utility corridors, such as the canal corridor, must satisfy security concerns of adjacent property owners. | The Coyote Alamos Canal Trail would be consistent with the <i>Greenprint</i> if security concerns of adjacent property owners could be adequately addressed. |
| City of San José – 1983 <i>Bicycle Plan</i> & 2001 –2002 Transportation Bicycle Network Planning Map (2) | The 1983 <i>Bicycle Plan</i> identified the City Bicycle Network. The 2001 –2002 Transportation Bicycle Network Planning Map shows proposed and completed segments of Class II bike lanes extending along Santa Teresa Blvd. between Cottle Road and Coleman Road. Class II bike lanes are also shown along Coleman Road between Santa Teresa Blvd. and Winfield Blvd. | This bikeway system would allow for access to Almaden Lake City Park from the neighborhoods that extend along the eastern toe of the Santa Teresa Hills. This bicycle network does not designate a direct bicycle route to the canal or bicycle route between Santa Teresa Blvd. and the Coyote Creek Park Chain. | The Bicycle Plan and Network Planning Map only address on-street bicycle transportation systems; thus consistency is not applicable to the development of Coyote Alamos Canal Trail. However, Alternative 5 presented in this plan would be consistent with the City’s Bicycle Plan & Network Planning Map. |

Appendix H

Consistency with Plans Guiding Trail Development (continued)

| Planning Document | Vision for Trails | Inclusion in Planning Document | Consistency with Document Policies |
|---|---|---|---|
| San José Riparian Corridor Policy Study | This study provides a description of various types of riparian corridors including the modified concrete/rock channel such as the Coyote Alamos Canal, and it provides a critique of channel designs from a biotic resource management perspective. | The Coyote Alamos Canal is not identified in the riparian corridor inventory for the <i>San José Riparian Corridor Policy Study</i> . However, the Coyote Alamos Canal Trail is proposed to be located on the maintenance road along the top of the canal bank as recommended in this policy study. | Development of this trail would be consistent with the <i>San José Riparian Corridor Policy Study</i> guidelines. |
| Santa Teresa County Park Master Plan (3) | The 1992 Santa Teresa County Park Master Plan proposes new and improved recreational nodes and trails, and maintenance and management concepts, as well as future park expansion possibilities. | The Coyote Alamos Canal is identified as one of the trail concepts described in the Plan. | Development of Coyote Alamos Canal Trail is consistent, for the portion of canal that traverses Santa Teresa County Park, and the portion of the canal that extends westward to Santa Teresa Blvd. |
| Santa Clara Valley Open Space Authority (4) | The City of San José is one of the Authority's participants. The Authority was established in 1995 to preserve, protect and manage, for the use and enjoyment of all people, a well-balanced system of urban and non-urban areas of outstanding scenic, recreational and agricultural importance. | The 5-Year Plan guides the Authority's roles, policies, and expenditures. The Open Space Opportunities Maps identify the west Santa Teresa Hills and Tulare Hill, including the Coyote Alamos Canal, as areas to be considered for acquisition. | Development of Coyote Alamos Canal Trail would be consistent with the Santa Clara Valley Open Space Authority's first 5-year plan. |
| Santa Clara County 2020 Plan (4) | The 2020 Plan was prepared in 1987 to establish priorities for preserving open space within Santa Clara County. | Preservation of the open space character of the Santa Teresa Hills was ranked No. 1 in this plan, a ranking that was retained in the Authority's Plan. Resources targeted to be protected included viewshed, buffer to urbanization, archaeology, historic features, and natural habitat. | Preservation of the hills for passive recreation, such as the Coyote Alamos Canal Trail, would be consistent with the Santa Clara County 2020 Plan, as long as the potential impacts to resources could be mitigated. |

- (1) Refer to *Appendix C City of San José Trails & Bicycle Plans* to view the *City of San José Scenic Routes and Trails Diagram*
- (2) Refer to *Map 3 Trail Alternatives Considered in this Study* to view the proposed bike/pedestrian route identified in Alternative 5 and *Appendix C City of San José Trails & Bicycle Plans*.
- (3) Refer to, *Appendix F - Santa Teresa County Park Trails* to see how these trail systems fit with the proposed *Alamos Coyote Canal Trail*.
- (4) Refer to *Map 3 Trail Alternatives Considered in this Study* to view the ridgeline route identified in Alternative 3 and *Appendix G Acquisition Plans & Priorities for the Santa Teresa Hills* to see how Alternative 3 could fit with these plans.

Appendix I - Opportunities & Constraints

Appendix I - Opportunities & Constraints

Opportunities & Constraints Defined

With regard to this feasibility study, *opportunities* are defined as those characteristics that would accommodate trail development and encourage trail use. For example, level terrain and easy access to the trail would encourage neighborhood trail use by local families. *Constraints* are those characteristics that might restrict or limit construction of a trail or its ultimate use. In some cases, constraints are physical barriers that must be overcome such as street crossings. In other cases, a constraint can be associated with current land ownership and/or use patterns. Examples would be privately held lands where owners are unwilling to dedicate land for trail purposes or operations associated with maintaining the canal or the associated maintenance road that would conflict with trail use.

The table and maps in this section illustrate where opportunities and constraints are located along the canal. This table and the accompanying maps were developed to facilitate discussions among the Technical Advisory Committee during the July 11, 2002 field meeting. The table and maps have been updated to reflect input received from the TAC and further research conducted to clarify and expand upon that input. The table is only intended to provide a summary of the opportunities and constraints. More detailed information is provided throughout the body of the document.

Appendix I
Summary of Opportunities & Constraints

| Key to Map** | Opportunities | Constraints |
|--------------------|---|---|
| Connections | Connections to Parks - The Coyote Alamos Canal could link regional and neighborhood parks | |
| 2 | Almaden Lake City Park - Destination Recreation Area | |
| 11 | Foothill City Park and Century Oaks Park - neighborhood park | |
| 25 | Coyote Creek Park Chain – Parkway Lakes County Park, & Metcalf City Park - Destination Recreation Area | |
| | Trail Links - The Coyote Alamos Canal/Santa Teresa Trail corridor could increase connectivity in the regional trail system | |
| 3 | The Alamos Creek Trail/Guadalupe Creek Trail | |
| 18 | The PG&E Trail – Albertson Parkway at terminus of Manila and Curie Streets | |
| 19 | Santa Teresa County Park trail system | |
| 27 | Coyote Creek Park Chain | |
| | Staging - Existing parklands provide opportunities for staging | Staging – Hours may not coincide with peak trail use hours, size of sites is limited & trail staging demand may compete with other park functions |
| 4 | Almaden Lake City Park | Fee parking - hours 8 am to dusk |
| 17 | Bernal-Gulnac-Joice Ranch House and Santa Teresa Springs | Very limited off-street parking - hours 8 am to dusk |
| 25 | Coyote Creek Park Chain trail staging area off Monterey Highway - existing off-street parking, no fee | Hours 8 am to dusk |
| Access | Neighborhood Access - Canal trail could be easily accessed from local neighborhoods and schools, thereby limiting need for vehicular staging areas | Barriers to Access & Trail Continuity - Barriers include discontinuous maintenance road, geologic and biotic constraints, street crossings, private ownership, and incompatible uses adjacent to the trail |
| 5 | <u>High Density Residential</u> . From high density residential complexes potential access points include Miracle Mountain Dr., Winfield Blvd. & Tulare Hill Lane | |
| 10 | <u>Single Family Residential</u> . Potential neighborhood access points at Hillrose Dr., Cahalan Ave. and many of the public lands that buffer the trail | |

** Numbers key to locations on the accompanying Opportunities & Constraints Maps

Appendix I
Summary of Opportunities & Constraints (continued)

| Key to Map** | Opportunities | Constraints |
|-------------------------------|--|--|
| 21 | <u>Single Family Residential</u> . Potential neighborhood access into County Park trail system provided at Brockhurst Dr., Bernal-Gulnac-Joice Ranch, Santa Teresa Springs and Bayliss Dr. | |
| 28 | | <u>Discontinuous trail sections</u> . Where the water was designed to be conveyed by underground pipes, instead of open canal, there is no maintenance road |
| 14 | | <u>Private lands</u> . Much of the canal between Almaden Lake City Park and Santa Teresa County Park and the adjacent hillside lands east of the Coyote Alamos Canal/Santa Teresa Trail corridor is held in fee by private parties |
| 22 | | <u>Incompatible Recreation Uses</u> . County Archery Range represents a use conflict and safety hazard to potential trail users. A trail through the County golf course creates potential disturbance of golf play and potential hazard from flying balls. |
| 8 | | <u>Hazardous Condition</u> . Naturally occurring asbestos found in serpentine rock can create a potential hazardous condition for people coming in contact with the material. |
| 29 | | <u>Hazardous Condition</u> . PG&E high voltage electrical transmission towers and lines can pose a potential safety hazard where trail users could come in contact with the towers (or lines). |
| Transportation Systems | Transportation Links -The Coyote Alamos Canal/Santa Teresa Trail could be connected to the transit and commuter bikeway systems | Street Barriers to Trail Continuity – Factors include mid-block crossings with limited visibility, high motorized traffic volumes and speeds |
| 1 | <u>Transit</u> . Transit connection could be made from the canal to light rail/VTA bus lines (13, 64, 65, 67) at Ohlone/Chynoweth Light Rail Station and VTA Bus 67 along Coleman Road and Santa Teresa Blvd | |
| 6 | <u>Bike Lanes</u> . Existing bike lanes along Coleman Road and Santa Teresa Blvd. could be used if an on-street alignment is pursued | |
| 7 | | <u>Coleman Road</u> . Turning movements and access to canal are limited by landscaped median extending between Winfield Blvd. and Santa Teresa Blvd. |
| 8 | | <u>Miracle Mountain Road</u> . Connection between Miracle Mt. & Almaden Lake City Park is constrained by steep terrain, serpentine rock outcropping & private land ownership |

** Numbers key to locations on the accompanying Opportunities & Constraints Maps

Appendix I
Summary of Opportunities & Constraints (continued)

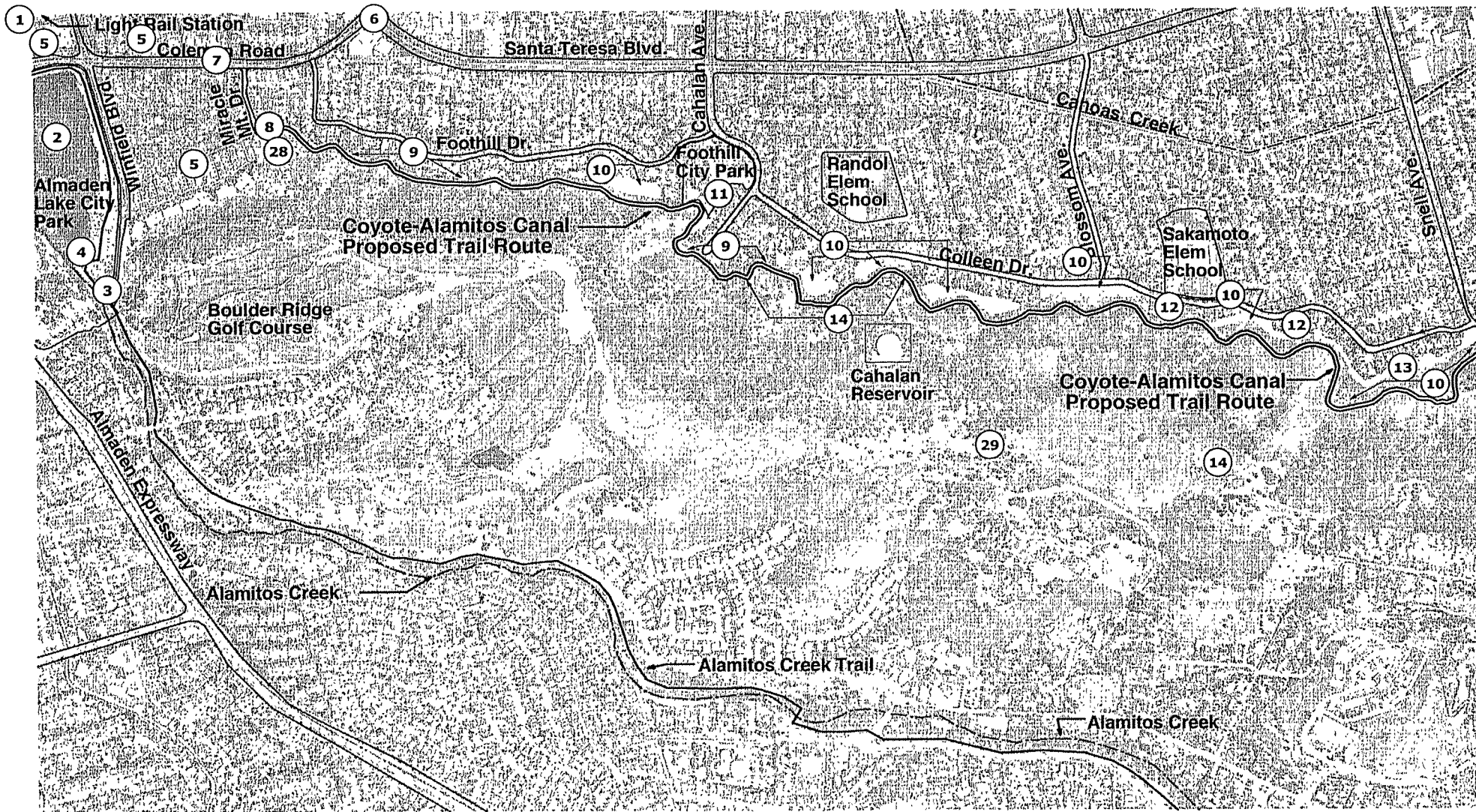
| Key to Map** | Opportunities | Constraints |
|----------------------|--|--|
| 20 | | <u>Bernal Road</u> . Potential crossing point has limited visibility and limited opportunities to provide a grade separated crossing given the adjacent terrain. Volume of traffic would not warrant a signalized crossing. |
| 25 | | <u>Santa Teresa Blvd.</u> Challenges include has limited visibility at the crest of the hill, high traffic volumes and speeds, a potential light rail crossing, private land ownership along the canal |
| 26 | | <u>Monterey Highway/Union Pacific Railroad</u> . Challenges include a crossing with high traffic volumes and speeds, an active rail crossing, extreme variations in elevation, private land ownership on the west side of Monterey Highway and a narrow landing area on the east side of the highway where the trail would connect to the Coyote Creek Park Chain. |
| Canal Setting | Habitat / Views - Unique habitat and wildlife associated with serpentine grassland, oak riparian woodland, upland oak woodland, Diablan sage scrub, and herbaceous wetlands provide viewing opportunities | Biotic Resources - Serpentine grassland, oak riparian woodland, upland oak woodland, Diablan sage scrub, and herbaceous wetlands can support sensitive, threatened and endangered flora and fauna |
| 15 | <u>Habitat Viewing Opportunities</u> Canal maintenance road provides opportunities to observe animals associated with oak riparian forests and freshwater seasonal wetlands located in the various drainages | <u>Biotic Resource Sensitivities</u> - serpentine grassland, oak riparian woodland, upland oak woodland, Diablan sage scrub, and herbaceous wetlands provide habitat for a variety of sensitive, threatened and endangered flora and fauna that could be harmed if the trail crosses habitat |
| 8 | <u>Habitat Viewing Opportunities</u> . Canal maintenance road provides opportunities to observe animals associated with serpentine rock, the dominant soil type on Tulare Hill. Outcroppings of serpentine can also be found throughout the Santa Teresa Hills | <u>Biotic Resource Sensitivities</u> . Serpentine rock provide habitat for a variety of sensitive, threatened and endangered flora and fauna that could be harmed if the trail crosses habitat |
| | Open Rural Landscape – Residents and canal maintenance road users are afforded a range of views of the surrounding areas | Elevation of Canal – Elevation of canal maintenance road creates views into local backyards and homes, and carries noise generated by trail users |
| 16 | <u>Residential Views</u> . Terminus of Woolsey St. at Santa Teresa County Park offers a representative view of the Santa Teresa Hills afforded to residents that back up to the canal | |
| | <u>Panoramic Views</u> . Canal maintenance road offers panoramic views of the Santa Teresa Valley, the Mount Diablo Range (to the east) and from Tulare Hill, the Santa Cruz Mountains and Mount Umunhum to the west | |

** Numbers key to locations on the accompanying Opportunities & Constraints Maps

Appendix I
Summary of Opportunities & Constraints (continued)

| Key to Map** | Opportunities | Constraints |
|--------------|---|---|
| | Geologic Considerations | |
| 24 | | Failure of the side slopes and the maintenance road due to creep and slides found adjacent to the canal present various limitations to trail development. |
| | "Public Open Space" Buffer – 30 – 100 foot right of way owned either by the City or the Santa Clara Valley Water District | |
| 9 | Buffer areas landscaped with large shrubs and trees provide a visual privacy screen between the canal and adjacent residences. This vegetative screening also serves to inhibit erosion on downhill embankment. | If landscape is not routinely maintained this "screen" could represent a fire safety hazard and provide "hiding places" for undesired uses |
| 12 | | Non-native grasslands are typically mowed to create a firebreak. The result is reduced privacy and a sense of visual and noise intrusion into adjacent residences |
| 13 | | Buffer areas create opportunities for encroachments from adjacent residences |
| 23 | Buffer areas create opportunities for establishing community gardens under the City's Community, Parks and Neighborhoods Services Programs | |

** Numbers key to locations on the accompanying Opportunities & Constraints Maps

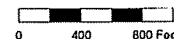


Legend

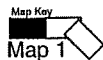
- 3 Opportunities/Constraints Identification Key - Refer to Table I for text summary



North

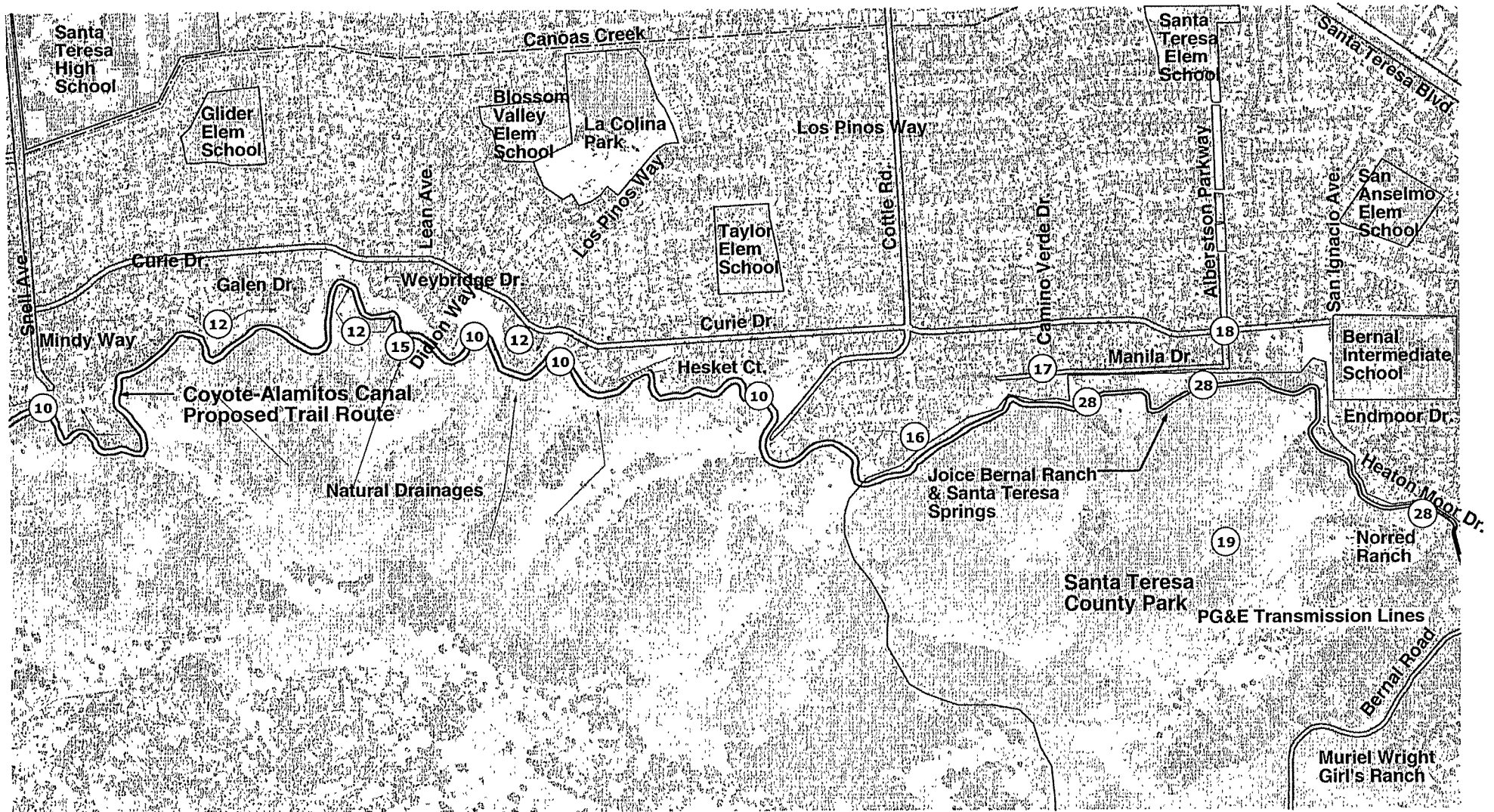


Appendix I -Summary of Opportunities & Constraints

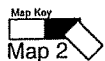


Map 1

Coyote -Alamitos Canal /Santa Teresa Corridor Trail Feasibility Study

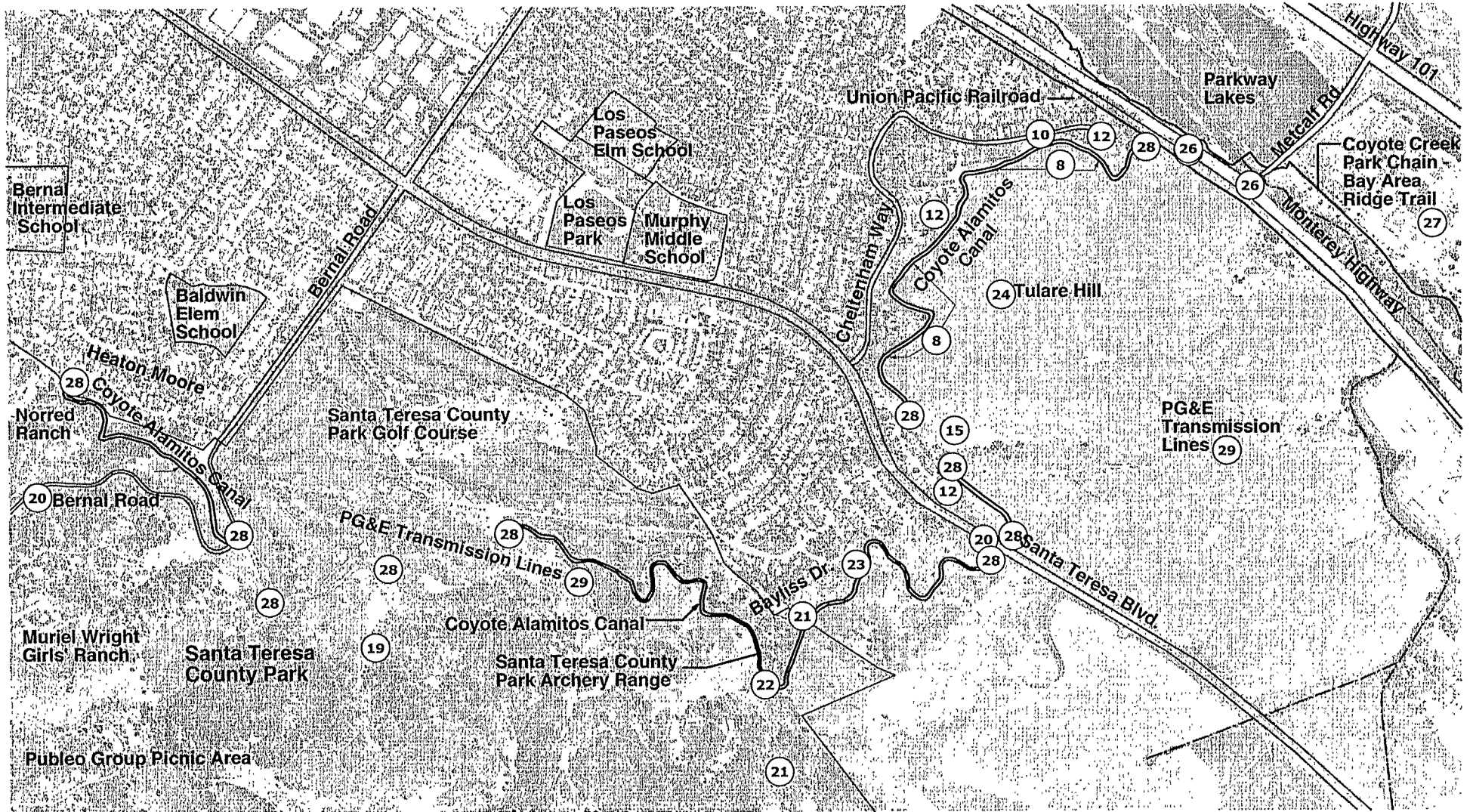


Appendix I -Summary of Opportunities & Constraints



Map 2

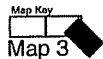
Coyote -Alamitos Canal /Santa Teresa Corridor Trail Feasibility Study



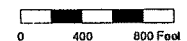
Legend

- ③ Opportunities/Constraints Identification Key -
Refer to Table I for text summary

Appendix I -Summary of Opportunities & Constraints



North



Coyote -Alamitos Canal /Santa Teresa Corridor Trail Feasibility Study

Appendix J- Geology

Appendix J - Geology¹

Existing Seismic Conditions

The Coyote Alamos Canal is located along the northern margin of a major structural feature called Santa Teresa Block. The Shannon fault separates this structural block from the Los Capitancillos Block to the south. The Shannon fault, is at the closest point, about one-half mile south of the canal. Active fault zones are located several miles to the east and west of the study area. These include the San Andreas, Hayward, Calaveras and Sargent faults.

No major faults are located within the canal alignment, though periodic seismic activity occurs along the active faults in the region. While seismic events have affected the study area in the past, neither cut slope nor embankment failures have been noted. However, very strong shaking could result in extensive sliding as approximately much of the Santa Teresa Hills lies within the earthquake induced landslide hazard zone. Additionally, the liquefaction zone for this area covers the lowlands along Coyote Creek and Alamos Creek.²

Geological Formations

The geological formations along the Coyote Alamos Canal study area consist of Franciscan units of sandstone, shale, greenstone and cert. Also included are other units such silica-carbonate, serpentine, and alluvium. Greenstone and chert units are encountered at random locations. The sandstones are generally hard, but in some locations intensely fractured and sheared. Depth of weathering varies. The shale is generally weak and highly fractured. The greenstone is fragmented, while the chert is well bedded, hard, resists weathering, and forms bold outcrops.

Serpentine has intruded as linear zones into the Franciscan group. Local occurrences of serpentine are found along the canal, and it also compromises most of Tulare Hill near the southeast end of the study area. The serpentine is generally sheared and weathered.

Shales, associated with sandstone, are found at the higher elevations of the Santa Teresa Hills. The shales are dark gray and thinly bedded. The canal only encounters this formation at one location, but colluvium derived in part from this formation is encountered in the west end of the study area. Silica-carbonate,

formed by hydrothermal alteration of serpentine, is found as “vein like” zones at locations along the canal. This rock unit forms bold outcrops. Alluvium is comprised of unconsolidated gravel, silt and clay.

The Franciscan units have been arranged into folds with an eastward trend. Attitudes generally show a southerly dip along the western portions of the alignment while the eastern portion dips northerly.

Landslides

There are a large number of active landslides in the study area. In general, the active slides are classed as shallow debris slides and occur in old slide debris and the residual soil zone. Some of the older slide debris is classed as rotational. Active creep conditions exist along the steeper slopes adjacent to the canal throughout its length. Hillsides and upland areas with fairly steep slopes (greater than 10%) that are underlain by the generally unstable Franciscan formation are especially susceptible to landslide activity. Areas with evidence of land sliding in the past or immediately adjacent to landslide deposits are considered the most unstable slopes. Most of these, formed by natural processes such as erosion and mass wasting, would be classed as old and inactive. However, the grading to construct the canal resulted in over steeping slopes that were marginally stable. Additionally, other grading in the near vicinity has also contributed to slope instability. This has resulted in accelerated creep and, in zones of old landslides, slope failure. The embankment zone of the canal, because of steep slopes and inadequate compaction according to today’s standards, is especially subject to erosion and mudflows.

Potential Areas of Slope Failure

Active creep conditions exist along the steeper slopes adjacent to the canal throughout its length. The active slides generally show movement during the winter months, and for the most part, have caused maintenance problems primarily affecting the canal. However, since the advent of residential development in proximity to the canal and the resulting difficult access to the area downslope from the canal, the consequences of sliding have become serious.

Examples of failure of the side slopes and the maintenance road due to creep and slides adjacent to the canal are found intermittently throughout the site. Typically these conditions are most prevalent where the side slopes are 30% or greater and where the canal crosses natural drainages. These slide areas present various limitations to trail development.

Based on historical evidence and knowledge of the local geological conditions along the canal, it can be stated that slides into the canal and erosion of the canal's service road embankment will continue.

Conditions Influencing Slope Failure

Factors contributing to landslides along the Coyote-Alamitos Canal are geologic structure, saturation of soils, cut slopes, seismic activity, and poor drainage. Failure along weak bedding planes or along joints within the formations contributes to landslide development, especially along the eastern portion of the alignment.

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- 1 Source: Earth Metrics, Inc., Prepared for Parks and Recreation Department, City of San José, *Feasibility Study for Providing a Trail Between Almaden Park and the Coyote Creek Park Chain*, August 1989
 - 2 Source: *Seismic Hazard Zone Report for the Santa Teresa Hills 7.5-Minute Quadrangle, Santa Clara County, California*, 2003

Appendix K - Preliminary Biological Assessment

Appendix K - Preliminary Biological Assessment

Focus of Assessment

This report presents a preliminary assessment of the biotic resources and a preliminary analysis of opportunities and constraints relative to sensitive habitats and special status species for four alternative trail routes:

- ❖ Alternative 1 - Construct the Trail on the Existing Maintenance Road
- ❖ Alternative 2 - Modify Canal Right of Way to Create a Wider Trail
- ❖ Alternative 3 - Santa Teresa Hills Ridgeline Route
- ❖ Alternative 4 - Existing Public Lands in the Project Area between Blossom Avenue and Santa Teresa Park

For the purposes of this preliminary biotic assessment, Alternatives 1 and 2 have been combined on the assumption that new trail construction activities for both of these alternatives would take place within the existing canal right-of-way. A preliminary assessment of the biotic resources for *Alternative 5 - Use of On-Street Bicycle Routes and Sidewalks to Connect Almaden Lake City Park and Santa Teresa County Park* was not conducted because this alternative would be located wholly within a built environment.

Biotic Resources Group and Dana Bland & Associates conducted the biotic resources analysis. The preliminary assessment of the biotic resources in the project vicinity was conducted in summer 2002 and early spring 2003. Study methodology included a limited field reconnaissance survey (where public access was provided), literature review, aerial photograph interpretation and accessing electronic databases. Literature and data base searches included the California Natural Diversity Data Base (CNDDB) "RareFind" (2002), California Native Plant Society (CNPS) Rare Plant Electronic Inventory (2002); and previous reports prepared for the vicinity.

Prior to conducting field surveys, a potential list of special status or sensitive species was prepared, utilizing species recognized by California Department of Fish and Game (CDFG, 2002), US Fish and Wildlife Service (2002) and California Native Plant Society (CNPS, 2002). The major plant communities on the site were identified during the limited field reconnaissance visits and review of aerial photographs. The communities were mapped onto the project base map (Map _). The *Jepson Manual* (Hickman, 1993) was the principal taxonomic references used for the botanical work.

Environmental Setting

The Coyote- Alamitos Canal project area lies at the southeast portion of the floristic geographic area known as San Francisco Bay Area Range (Hickman, 1993). This sub-region of central western California contains a diversity of plant community types from wet redwood forest to dry oak woodlands and chaparral. Current land uses are cattle grazing in the hillsides, multi-family and single family residential below the canal, use of the canal for water collection and unauthorized recreation activities such as hiking, biking, and equestrian use. Golf and archery are located adjacent to the canal within Santa Teresa County Park.

Where the trail is proposed to be overlaid on the existing roadbed of the Coyote Alamitos Canal maintenance road, the trail would traverse an engineered structure comprised of a compacted, aggregate surface that is generally devoid of vegetation. However, where the trail alignment must travel across discontinuous sections of the canal road, or where an alternate alignment is considered, there is the potential for the trail to traverse areas supporting a diversity of natural habitats and plant communities. Seven plant communities, ranging from grasslands to scrub and woodlands, occur in the Santa Teresa Hills that rise steeply from the western and southern sides of the canal right of way. These plant communities include oak riparian and upland woodland, coyote brush scrub, grassland, Diablan sage scrub, riparian woodland and herbaceous wetlands. The hills south of the canal and west of Santa Teresa Blvd., notably at Tulare Hill, support serpentine substrate and a serpentine grassland habitat.

Each of these natural habitats and plant communities is described below, relative to the specific trail alternative.

Coyote Alamitos Canal Trail (Alternatives 1 & 2 & 3)

These trail alternatives would utilize the existing maintenance road that is parallel to the canal (Alternative 1 and portions of Alternative 3) or the combined right of way of the canal/maintenance road (Alternative 2). Alternative 2 would require abandonment, filling and regrading of the canal structure, as well as development of new drainage infrastructure. (Refer to *Section V- Alternatives Considered for Accommodating Trail Uses within the Study* for a more detailed discussion of these alternatives). The maintenance road and canal is present in most areas. The road itself is devoid of vegetation. The Coyote Alamitos Canal is a modified gunite channel that currently only conveys incidental runoff from the hills above. To meet hydraulic design requirements and provide flood protection, the

Santa Clara Valley Water District clears the channels every year prior to the onset of the rainy season. Therefore, the channel is also generally devoid of vegetation. However, there are small pockets of freshwater marsh within the channel bottom where sediments have deposited on the concrete bottom. Situated adjacent to the road/canal are several plant community types, including oak woodland, oak riparian woodland, Diablan sage scrub, grassland, mixed native grassland and coyote brush scrub. In those locations where the canal is siphoned underground, the trail alignment would have to be routed across several of these plant communities. In addition to these native plant communities, the residential properties adjacent to the canal right of way have been landscaped with a variety of irrigated and non-irrigated ornamental (non-native) plants, while the dominant plant material found in the two golf courses (Santa Teresa Golf Course - Alternatives 1, 2, 3 and Rock Ridge Golf Course Alternative 3) located within the project corridor is irrigated turf grass.

Oak Riparian Woodland

This plant community occurs within the unnamed drainages that bisect the project site and enter the canal. The woodland is restricted to natural drainages and springs/seeps where relatively high soil moisture is maintained throughout most of the growing season. Cattle grazing also occurs within the project area's riparian corridors, resulting in pock mocked soil in some areas.

The oak riparian woodland consists of a dense overstory of native trees, most notably coast live oak and valley oak. Associated trees include California bay (*Umbellularia californica*) and blue elderberry (*Sambucus mexicana*). The understory vegetation is dominated by poison oak, California rose (*Rosa californica*), coffee berry (*Rhamnus californica* ssp. *californica*), willow (*Salix* sp.), bracken fern (*Pteridium aquilinum*), hedge nettle (*Stachys bullata*) and blackberry (*Rubus ursinus*). Occurrences of non-native plant species also occur in the woodland, including poison hemlock, Canada thistle (*Cirsium arvense*) and milk thistle (*Silybum marianum*), particularly where cattle gather.

In some portions of the project area, the woodland intermixes with Diablan sage scrub. In other areas, the woodland abuts upland oak woodland and grassland.

Wildlife Resources of Oak Riparian Woodland

The use of the oak riparian woodland by wildlife is expected to be similar to the Oak Woodland described below under the ridgeline alternative. In addition, the seasonal presence of water in this habitat is expected to attract upland species for drinking, bathing and foraging opportunities. Amphibians are expected to be more numerous and diverse in this habitat than elsewhere in the study area. Streamside pools and low-flow shallows provide

breeding habitat for Pacific tree frog (*Hyla regilla*), California newt, and western toad (*Bufo boreas*). Other species, such as the California slender salamander, seek the mesic conditions underneath fallen logs and woodland debris for breeding and refuge.

Common reptile species that utilize the wooded drainage bottoms for foraging or escape cover include western aquatic garter snake (*Thamnophis couchii*), western skink (*Eumeces skiltonianus*), and common king snake (*Lampropeltis getulus*). Where deciduous trees are prevalent (e.g., willows) the abundant insects these plants attract will create areas especially suitable for neo-tropical migrants, which feed on the numerous insects to replenish their migratory fat reserves. Neo-tropical migrants such as Wilson's warbler (*Wilsonia pusilla*), warbling vireo (*Vireo gilvus*), Pacific-slope flycatcher (*Empidonax difficilis*), as well as residents such as winter wren (*Troglodytes troglodytes*) are more abundant in riparian habitats than in adjacent forests. American dippers (*Cinclus mexicanus*), herons, belted kingfishers (*Ceryle alcyon*), and waterfowl utilize the nearshore areas of rivers and creeks. Swifts, swallows and flycatchers can be found hawking their insect prey over water. Red-shouldered hawks (*Buteo lineatus*) utilize riparian trees for nesting.

In addition to the species using adjacent forests, riparian-associated mammals that occur in this habitat include raccoon (*Procyon lotor*) and opossum. Ringtail (*Bassariscus astutus*), long-tailed weasel (*Mustela frenata*), and bobcat probably drink from the creeks and forage on rodents found there. This habitat provides movement corridors for several species including black-tailed deer, bobcat, gray fox, and coyote. Bats associated with riparian forests include Townsend's big-eared bat (*Corynorhinus townsendii*), California myotis, long-eared myotis (*Myotis evotis*) and fringed myotis (*Myotis thysanodes*). Black-tailed deer drink from creeks and forage in the vicinity on the understory plants.

Oak Woodland

The oak woodland occurs along the hillsides adjacent to the canal. The oak woodland habitat is denser on the north-facing slopes. In some areas, the woodland is more Savannah-like. As discussed for the ridgeline alternative, the woodland is dominated by coast live oak and valley oak.

The use of this oak woodland by wildlife is expected to be similar to that described for the Oak Riparian Woodland above; however, where the woodland is adjacent to residential development, those species that are more tolerant of the adjacent human activities are expected to be prevalent, e.g., scrub jay.

Grassland

This grassland community is the dominant vegetative feature on

the slopes bordering the canal, as well as the maintenance road embankment "buffer lands" located below the canal. The grassland inhabits the hillsides, intermixing with the oak woodland. The community, dominated by annual, non-native grass species, is classified, as California annual grassland, yet there may be inclusions of native, perennial grass species. These grasslands are not irrigated and are being grazed. During preliminary surveys along portions of the canal, the grassland was observed to be dominated by non-native grasses, including Italian ryegrass (*Lolium multiflorum*), wild oat, soft chess, rat-tail fescue (*Vulpia myuros*), ripgut brome (*Bromus diandrus*) and farmer's foxtail (*Hordeum leporinum* ssp. *leporinum*). Non-grass herbaceous species (i.e., forbs) are also common in these grassland areas. Common species include stork's bill (*Erodium* sp.), bull mallow (*Malva neglecta*), milk thistle (*Silybum marianum*), cat's ear (*Hypochaeris radicata*), bur clover (*Medicago polymorpha*), English plantain (*Plantago lanceolata*), curly dock (*Rumex crispus*), filaree (*Erodium cicutarium*), dandelion (*Taraxacum officinale*), dove's foot geranium (*Geranium molle*), subterranean clover (*Trifolium subterranean*), yellow shamrock (*Trifolium dubium*), filago (*Filago gallica*), sow thistle (*Sonchus oleraceus*), yellow star thistle (*Centaurea solstitialis*), and hairy hawkbit (*Leontodon hispidus*).

Native plant species were also observed within the grassland. These species included blue-eyed grass (*Sisyrinchium bellum*), blue dicks (*Dichelostemma pulchellum*), bicolor lupine (*Lupinus bicolor*), yarrow (*Achillea millefolium*), sun cups (*Camissonia ovata*), Ithuriel's spear (*Tritelia laxa*), farewell to spring (*Clarkia purpurea*), California poppy (*Eschscholtzia californica*), soap plant (*Chlorogalum pomeridianum*), fiddleneck (*Amsinckia* sp.) and California buttercup. Large fields of California buttercup were observed on the moister north-facing slopes. Small quantities of native grasses, including patches of purple needlegrass (*Nassella pulchra*) occur in portions of the non-native grassland.

Invasive, non-native plant species were observed in scattered occurrences within the grassland. The most notable species are yellow star thistle, Italian thistle (*Carduus pynoccephalus*), milk thistle and poison hemlock.

The adjacent residential uses moderate the value of these grasslands to wildlife. Domestic cats often prey on native birds and small mammals in grasslands adjacent to large residential developments. Where infestations of yellow star thistle are dense, burrowing rodents such as ground squirrels are usually absent.

Serpentine Grassland

The grasslands along Tulare Hill adjacent to the Coyote Alamitos Canal (Alternatives 1, 2, 3) support serpentine

grassland. The presence of serpentine-derived soils and a high frequency of perennial and annual native grasses and forbs characterize the grassland. This habitat generally occurs on the Montara, Montara-Climara complex and the Climara clay soils. These area soils derived from serpentine bedrock. Due to the chemical composition of the soil (i.e., relatively high concentrations of iron and manganese and low levels of calcium) the serpentine areas support numerous endemic plant species.

Cattle currently graze the Tulare Hill serpentine grassland. The grazing program appears to have limited the amount of invasive non-native plant species (e.g., star thistle and annual grasses), such that the site supports a diverse array of vascular plant species. [Spring surveys will be necessary to document plant species in this area, particularly as serpentine grasslands can support special status plant species

The Tulare Hill area contains a rocky outcrop area where the canal water is siphoned underground. If the trail routes identified in Alternatives 1,2, or 3 were implemented, these routes would have to cross this "gap" in the existing maintenance road. New trail construction could trigger potential impacts not associated with overlaying the trail on existing sections of the maintenance road. The rocky outcrops are vegetated with herbaceous plant species typical of the adjacent serpentine grassland, with the addition of native species typical of Diablan sage scrub. While not observed during the summer 2002 field surveys, the serpentine rocky outcrops have the potential to support several rare and endangered plant species. These plants include Metcalf Canyon jewelflower (*Streptanthus albidus* ssp. *albidus*), uncommon jewelflower (*S. albidus* ssp. *peramoenus*), Mt. Hamilton jewelflower (*S. callistus*), Santa Clara valley dudleya (*Dudleya setchellii*), Tiburon paintbrush (*Castilleja affinis* ssp. *neglecta*), and smooth lessingia (*Lessingia micradenia* var. *glabrata*).

Wildlife Resources of Serpentine Grasslands

The use of the serpentine grassland by wildlife is expected to be similar to that described above for annual grassland. However, the serpentine grassland is more arid habitat and thus, use by amphibians is expected to be minimal, if at all. Serpentine grassland may provide habitat for the Bay checkerspot butterfly (*Euphydryas editha bayensis*), a federally listed species, and possibly California horned lark (*Eremophila alpestris actia*), a California species of special concern.

Seasonal Wetlands

The canal route traverses small seasonal wetlands and hillside seeps. Where run-off from these water sources is channeled through existing pipes under the maintenance road the trail would not impact these adjacent resources. However, where new construction would be required across wetlands or seeps to

provide trail continuity, these sensitive resources could be impacted.

These seasonal wetlands and hillside seeps create microhabitats where subsurface water is available for plant growth during most of the growing season. This hydrologic regime supports a dense growth of plant species typical of a wet meadow or seasonal wetland. During the 2002 site visits, the seasonal wetlands were observed to exhibit conditions typical of wetland areas. These conditions include periods of ponded water, saturated soil conditions and dominance by hydrophytic (i.e., "water-loving") plant species.

Typical plant species observed in the various seasonal wetlands include brown-headed rush (*Juncus phaeocephalus*), spreading rush (*Juncus patens*), meadow barley (*Hordeum brachyantherum*), common monkey flower (*Mimulus glutattus*), California buttercup, spikerush (*Eleocharis* sp.), common rush (*Juncus effusus*), velvet grass (*Holcus lanatus*), Italian ryegrass and curly dock.

Wildlife Resources of Seasonal Wetlands

The use of the seasonal wetlands by wildlife is expected to be similar to the adjacent grasslands, with the exception that the seasonal presence of water may attract wildlife for drinking, breeding or foraging. The water depth and period of inundation will determine if the seasonal wetlands are suitable for breeding by common amphibians such as Pacific tree frog and western toad. Other common wildlife that may occur at these sites include western aquatic garter snake, black phoebe (*Sayornis nigricans*), cliff swallow (*Hirundo pyrrhonota*), raccoon, and several species of bats.

Diablan Sage Scrub. This scrub habitat typically occupies the steep south-facing slopes of the project area in serpentine-derived soils. The vegetation is comprised of large shrubs, often forming impenetrable thickets. Within the project area, the sage scrub is dominated by California sage (*Artemisia californica*), coyote brush (*Baccharis pilularis*), coffee berry (*Rhamnus californica*), and California blackberry. Also occurring in the scrub are poison oak, mules ears (*Wyethia* sp.), and sticky monkey flower (*Mimulus aurantiacus*). The sage scrub is also suitable habitat for the rare jewel flowers and Santa Clara valley dudleya (when in serpentine). None were observed in the project area during the summer 2002 survey; however, suitable habitat exists in the Tulare Hill area.

Wildlife Resources of Diablan Sage Scrub

The abundant berries of shrubs and the seeds of herbaceous plants in the sage scrub habitat provide important forage for wildlife. Wildlife may perch on the outer perimeter of mixed scrub to take advantage of hunting opportunities in adjacent

openings, and take cover in the denser shrub patches as needed. Common wildlife species found in sage scrub include western fence lizard, California towhee, white-crowned sparrow, and coyote.

Coyote Brush Scrub

Thickets of scrub occur along the canal road. These scrub areas are dominated by coyote brush and coffeeberry.

The wildlife use of coyote brush scrub habitat is expected to be similar to that described above for Diablan sage scrub. The scrub habitat adjacent to oak woodland forms important ecotones for wildlife, and may support a more diverse assemblage of fauna than individual scrub patches.

Santa Teresa Hills Ridgeline Route (Alternative 3)

This trail alternative is proposed along the ridgeline above the existing Coyote – Alamos Canal. The proposed route is expected to utilize an existing PG&E access road(s) and ranch roads, as well as possible some new trail connections for approximately two miles. The trail would then reconnect to the Coyote Alamos Canal maintenance road near Colleen Drive where the PG&E transmission lines intersect the canal. The trail would then continue along the canal maintenance road to the Coyote Creek Park Chain. Based on field observations from public access points and a review of aerial photos, this route would traverse through oak woodland, grassland and Diablan sage scrub communities.

Oak Woodland

The oak woodland occurs along the ridges and hillsides of the project area. The oak woodland habitat is highly variable within the ridgeline corridor, ranging from open savannahs to denser oak woodlands, depending upon the slope, aspect and past/present land management practices. The dominant overstory vegetation includes evergreen oaks, such as coast live oak (*Quercus agrifolia*) and interior live oak (*Quercus wislizenii*) with winter deciduous species of valley oak (*Quercus lobata*) and an occasional blue oak (*Quercus douglasii*). Other trees include blue elderberry (*Sambucus mexicana*). Since all of the property is grazed by cattle, much of the woodland understory is sparse. In areas less accessible to cattle, the understory is dense with California rose (*Rosa californica*), toyon (*Heteromeles arbutifolia*), snowberry (*Symphoricarpos mollis*), and poison oak (*Toxicodendron diversilobum*). Herbaceous plant species, typical of the adjacent grasslands are also present. Typical plant species include soft chess (*Bromus mollis*), ripgut brome (*Bromus diandrus*), wild oat (*Avena fatua*), Italian thistle (*Carduus pynoccephalus*) and poison hemlock (*Conium maculatum*). The

grassy areas likely include native species, such as purple needlegrass (*Nassella pulchra*), California buttercup (*Ranunculus californica*) and lupine (*Lupine* sp.).

Wildlife Resources of Oak Woodland

The wildlife value of the oak woodland varies with the degree of canopy cover and density and diversity of understory plant species present. In general the wildlife species diversity and abundance are highest where vegetation is highly stratified, offering a greater variety of niches for wildlife species. Areas where the oak woodland intergrade with scrub communities create a mosaic that is also highly stratified and of high value to wildlife.

The acorns from the oak trees provide a seasonal food source important for the survival of many species of wildlife in fall and winter. Mature oak trees bear natural cavities, which are important resources for cavity-nesting birds and small mammals. Standing dead trees (called snags) provide valuable resources for woodpeckers, which prefer dead trees and limbs for excavation of roost and nest sites. Subsequently, snags receive high levels of use by secondary cavity-nesting birds (e.g., chickadees and wrens). Snags also support wood-boring insects, which provide food for bark-gleaning insectivorous birds. Some of the other important food plants for wildlife that occur in this habitat include elderberry, rose, toyon, coffee berry, blackberry, and poison oak. These plants provide seasonal wildlife food (e.g., berries and nuts) which is consumed by many bird and mammal species.

Another important feature of the oak woodland is the presence of fallen woody debris (e.g., limbs and logs). Woody debris adds structural complexity to the forest habitat, and is important as cover, nesting, roosting, and foraging substrate for wildlife. Downed wood also helps moderate arid conditions, affords a substrate for fungi and slime molds, creating micro-climates suitable for amphibians and reptiles.

The mesic micro-climate resulting from the shade of canopy trees and the presence of downed woody debris offers suitable cover for many amphibians. Downed woody debris provides suitable breeding and cover sites for species such as arboreal salamander (*Aneides lugubris*), Ensatina (*Ensatina eschscholtzi*) and California slender salamander (*Batrachoseps attenuatus*). Some aquatic breeding species, e.g., California newt (*Taricha torosa*), spend their terrestrial existence in rodent burrows or under woody debris in oak woodlands adjacent to streams and ponds.

The oak woodland supports a high diversity of reptiles due to the abundant prey and cover provided by understory vegetation and fallen woody material. Common reptiles that utilize the drier

portions of this habitat are the western fence lizard (*Sceloporus occidentalis*) and southern alligator lizard (*Gerrhonotus multicarinatus*).

Bird species richness and abundance is high in the oak woodland, especially where the understory is stratified and dense. This habitat is especially important to cavity-nesters and those species that consume acorns. As a result of many factors (i.e., migratory and local movements, reproduction, mortality, and seasonally changing habitat requirements) bird populations are distinctly different from season to season.

Typical cavity-nesting birds include chestnut-backed chickadee (*Poecile rufescens*), oak titmouse (*Baeolophus inornatus*), western screech-owl (*Otus kennicotti*), hairy woodpecker (*Picoides villosus*), Nuttall's woodpecker (*Picoides nuttallii*), and acorn woodpecker (*Melanerpes formicivorus*). Birds that are dependent on acorns as a seasonal food include acorn woodpecker, scrub jay (*Aphelocoma coerulescens*), band-tailed pigeon (*Columba fasciata*), and California quail (*Callipepla californica*). The insects in the trees are prey for several birds such as bushtit (*Psaltiriparus minimus*), chestnut-backed chickadee, and yellow-rumped warbler (*Dendroica coronata*). California towhee (*Pipilo crissalis*) forage for insects on the ground beneath trees. Great horned owls (*Bubo virginianus*), western screech-owls, and northern pygmy-owls (*Glaucidium gnoma*) nest in oak woodlands and prey on rodents that are active at night. Diurnal raptors in this habitat include red-tailed hawk (*Buteo jamaicensis*), Cooper's hawk (*Accipiter cooperii*), and red-shouldered hawk (*Buteo lineatus*). These raptors feed primarily on other birds and small mammals.

Most of the mammals that occur in this habitat are essentially year-round residents. Where the duff layer is abundant creating moist ground conditions, large invertebrate populations occur, providing prey for insectivores, such as ornate shrew (*Sorex ornatus*) and broad-footed mole (*Scapanus latimanus*). Acorns provide a valuable seasonal food for black-tailed deer (*Odocoileus hemionus*) and western gray squirrel (*Sciurus griseus*), and the oaks offer suitable denning sites for cavity-dwelling mammals such as striped skunk (*Mephitis mephitis*). A variety of bat species may use the tree cavities as daytime roosts and forage aerially in the woodland and nearby grasslands. The areas of denser vegetation provide good escape cover during the day for larger wildlife that feed at dusk and at night, such as deer. Representative mammal species that utilize this habitat include broad-footed mole, dusky-footed woodrat (*Neotoma fuscipes annectens*), deer mouse (*Peromyscus maniculatus*), pinon mouse (*Peromyscus truei*), black-tailed deer, western gray squirrel, bobcat (*Lynx rufus*), gray fox (*Urocyon cinereoargenteus*), striped skunk, Virginia opossum (*Didelphis virginiana*), and California myotis (*Myotis californicus*).

Grassland

This ridgeline route (Alternative 3) would also traverse through grassland. The character of the grassland is not known due to lack of surveys; however, it is expected to be comprised of a mixture of native and non-native plant species, similar to that observed adjacent to the Coyote Alamitos Canal (see discussion above). If Alternative 3 were to be implemented field surveys would be necessary to document vegetation resources within this area in conjunction with defining a specific, detailed trail alignment.

Wildlife Resources of Grasslands

In general, grasslands provide an important foraging resource for a wide variety of wildlife species. The invertebrate fauna of grasslands is diverse and abundant, many of which perform important functions such as pollinating the grasses and wildflowers. The tunneling action of insects such as some beetles, Jerusalem crickets and worms helps aerate the soils. As described in more detail below, the invertebrates form the basis of the food web in grasslands.

Grasslands provide an important foraging resource for a wide variety of wildlife species. The grasses and forbs produce abundant seeds, roots and leaves, providing food for many wildlife species. Common plant-eating wildlife species expected to occur in grasslands along the project area include savannah sparrow (*Passerculus sandwichensis*), house finch (*Carpodacus mexicanus*), American goldfinch (*Carduelis tristis*), Audubon's cottontail (*Sylvilagus audubonii*), Botta's pocket gopher (*Thomomys bottae*), western harvest mouse (*Reithrodontomys megalotis*), and California vole (*Microtus californicus*). The numerous insects and invertebrates that thrive on grassland plants attract insectivorous vertebrate species such as western fence lizard (*Sceloporus occidentalis*), violet-green swallow (*Tachycineta thalassina*), cliff swallow (*Hirundo pyrrhonota*), American robin (*Turdus migratorius*), grasshopper sparrow (*Ammodramus savannarum*), western meadowlark (*Sturnella neglecta*), Brewer's blackbird (*Euphagus cyanocephalus*), ornate shrew (*Sorex ornatus*), and California myotis (*Myotis californicus*).

The openness of the grassland habitat and abundance of reptiles and small mammals in grasslands make this a favored hunting area for several raptors, including white-tailed kite (*Elanus leucurus*), northern harrier (*Circus cyaneus*), red-tailed hawk (*Buteo jamaicensis*), and American kestrel (*Falco sparverius*). Turkey vultures (*Cathartes aura*) are commonly seen soaring in search of carrion. Larger mammalian predators associated with grasslands, such as coyote (*Canis latrans*), badger (*Taxidea taxus*), and bobcat (*Lynx rufus*) may also occur in the grasslands along the project area.

Snakes may lay eggs in grasslands with loose soils, talus, or small mammal burrows, the most common of which is the gopher snake (*Pituophis melanoleucus*). Several small mammals dig burrows in grasslands where they breed, for example, gophers, mice and voles.

Existing Public Lands in the Project Area - Blossom Ave. to Santa Teresa Park (Alternative 4)

This trail alternative would utilize City owned lands that occur down slope of the canal. The City owned lands are primarily grassland, with some occurrence of coyote brush scrub and oak woodland, as discussed above for the canal route alternatives. Similar to Tulare Hill, the grasslands located below the Coyote Alamos Canal (Alternative 4) support serpentine grassland in those areas where there are serpentine rock outcroppings. Refer to the discussion of serpentine grasslands above.

Sensitive Habitats

Sensitive habitats are defined by local, State, or Federal agencies as those habitats that support special status species, provide important habitat values for wildlife, represent areas of unusual or regionally restricted habitat types, and/or provide high biological diversity. Five plant communities within the project area— serpentine grassland, oak riparian woodland, oak woodland, seasonal wetlands and Diablan sage scrub— are designated as a high priority in the California Department of Fish and Game (CDFG) Inventory (CDFG, 2002). This category contains native plant communities that are regarded by CDFG as having special significance under the California Environmental Quality Act.

The serpentine grasslands within the Tulare Hill area are considered a sensitive habitat according to CDFG and United States Fish and Wildlife Service (USFWS) due to the potential occurrence of rare, threatened or endangered species (i.e., Bay checkerspot butterfly and potential rare plant species) and its limited distribution within the region. The serpentine grassland may also contain a high density of native plants.

The oak riparian woodland and oak woodland habitats within the project area are also considered sensitive according to CDFG. This status is due to the value of oak woodlands to wildlife and the relatively limited (and declining) distribution of this habitat at the local and statewide level.

The seasonal wetlands on the project site are typical of similar areas of California. Due to changes in land use, however, their

distribution and habitat quality has been reduced, such that the CDFG and US Army Corps of Engineers (USACOE) consider the community significant.

Diablan sage scrub is considered a sensitive habitat by CDFG. Within the project area the scrub is comprised of common plant species; yet has the potential to support rare plant species. The scrub may also provide potential nesting habitat for sensitive wildlife species, e.g., the loggerhead shrike.

Appendix K

Table K-1 - List of Special Status Plant Species with Potential to Occur in the Vicinity of the Coyote – Alamitos Canal Trail Project, San Jose, California

| Species | Status | Habitat | Known Occurrence on Site/Vicinity |
|--|---|---|--|
| Mt. Hamilton jewelflower (<i>Streptanthus albidus</i> ssp. <i>peramoenus</i>) | CNPS: List 1B State: None Federal: SSC | Rocky outcrops in serpentine derived substrates | Not observed on site yet known from nearby areas |
| Metcalf Canyon jewelflower (<i>Streptanthus albidus</i> ssp. <i>albidus</i>) | CNPS: List 1B State: None Federal: E | Rocky outcrops in serpentine derived substrates | Not observed on site yet known from nearby areas |
| Tiburon paintbrush (<i>Castilleja affinis</i> ssp. <i>neglecta</i>) | CNPS: List 1B State: T Federal: E | Root parasite; found within serpentine grasslands | Not observed on site yet known from lands east of Anderson Reservoir at Metcalf Canyon |
| Coyote ceanothus (<i>Ceanothus ferrisiae</i>) | CNPS: List 1B State: None Federal: E | Serpentine chaparral and Diablan sage scrub | Not observed on site yet known from Kirby Canyon Landfill and lands to the south |
| Santa Clara Valley dudleya (<i>Dudleya setchellii</i>) | CNPS: List 1B State: None Federal: E | Rocky outcrops in serpentine derived substrates | Not observed on site yet may occur nearby |
| Sharsmith's onion (<i>Allium sharsmithae</i>) | CNPS: List 1B State: None Federal: None | Serpentine woodland and grassland | Not observed on site yet potential exists in Mt. Hamilton Range |
| Big-scale balsamroot (<i>Balsamorhiza macrolepis</i> <i>macrolepis</i>) | CNPS: List 1B State: None Federal: None | Serpentine woodland and grassland | Not observed on site yet potential exists in Mt. Hamilton Range |
| Mt. Hamilton harebell (<i>Campanula sharsmithae</i>) | CNPS: List 1B State: None Federal: None | Serpentine woodland and grassland | Not observed on site yet potential exists in Mt. Hamilton Range |
| South Bay clarkia (<i>Clarkia concinna</i> ssp. <i>automixa</i>) | CNPS: List 1B State: None Federal: None | Woodlands | Not observed on site yet potential exists in Mt. Hamilton Range |

Appendix K

Table K1 - List of Special Status Plant Species with Potential to Occur in the Vicinity of the Coyote Alamos Canal Trail Project, San Jose, California (cont.)

| Species | Status | Habitat | Known Occurrence on Site/Vicinity |
|---|---|--|--|
| Hospital Canyon larkspur (<i>Delphinium californicum</i> ssp. <i>interius</i>) | CNPS: List 1B State: None Federal: None | Woodland | Not observed on site yet potential exists in Mt. Hamilton Range |
| Mt. Hamilton coreopsis (<i>Coreopsis hamiltonii</i>) | CNPS: List 1B State: None Federal: None | Woodland | Not observed on site yet potential exists in Mt. Hamilton Range |
| Talus fritillary (<i>Fritillaria falcata</i>) | CNPS: List 1B State: None Federal: None | Serpentine woodland and grassland | Not observed on site yet potential exists in Mt. Hamilton Range |
| Contra Costa goldfields (<i>Lasthenia conjugens</i>) | CNPS: List 1B State: None Federal: None | Valley and foothill grassland and vernal pools | Not observed on site yet potential exists in Mt. Hamilton Range |
| Smooth Lessingia (<i>Lessingia micradenia</i> var. <i>glabrata</i>) | CNPS: List 1B State: None Federal: None | Serpentine chaparral and rock outcrops | Not observed on site yet potential exists in Mt. Hamilton Range |
| Mt. Diablo phacelia (<i>Phacelia phaceliodes</i>) | CNPS: List 1B State: None Federal: None | Serpentine chaparral and rock outcrops | Not observed on site yet potential exists in Mt. Hamilton Range |
| Serpentine Linanthus (<i>Linanthus ambiguus</i>) | CNPS: List 4 State: None Federal: None | Serpentine grassland | Not observed, but potential habits occurs in serpentine grasslands |
| San Francisco wallflower (<i>Erysimum fransiscanum</i>) | CNPS: List 4 State: None Federal: None | Serpentine grassland | Not observed on site yet potential exists on site; species known from adjacent lands |

CNPS Status:

List 1B: These plants (predominately endemic) are rare through their range and are currently vulnerable or have a high potential for vulnerability due to limited or threatened habitat, few individuals per population, or a limited number of populations. List 1B plants meet the definitions of Section 1901, Chapter 10 of the CDFG Code.

List 3: This is a review list of plants which lack sufficient data to assign them to another list.

List 4: List 4 is a watch list of plants with limited distribution in the state that have low vulnerability and threat at this time. These plants are uncommon, often significant locally, and should be monitored.

Federal and State Status:

T: Designated as a threatened species by the federal government or the California Fish and Game Commission

E: Designated as an endangered species by the federal government or the California Fish and Game Commission

SSC: Species of Special Concern

Appendix K

Table K2 - Special Status Wildlife Species and Their Predicted Occurrence along the Coyote Alamitos Canal Trail Project, City of San Jose, California, April 2003

| Species | Status ¹ | Habitat | Potential Occurrence on Site |
|---|---------------------|--|--|
| Invertebrates | | | |
| Bay checkerspot butterfly <i>Euphydryas editha bayensis</i> | FT | Serpentine grasslands with dwarf plantain | Known from Tulare Hill |
| Amphibians | | | |
| California tiger salamander <i>Ambystoma californiense</i> | CSC | Ponds for breeding, adjacent grasslands and with burrows for summer habitat | May occur in some of the grasslands if suitable breeding ponds nearby |
| California red-legged frog <i>Rana aurora draytonii</i> | FT, CSC | Riparian, marshes, estuaries and ponds. | May occur in ponded areas of seasonal creeks |
| Reptiles | | | |
| Southwestern pond turtle <i>Clemmys marmorata pallida</i> | CSC | Creeks and ponds, grasslands for nesting. | May occur in ponded areas of seasonal creeks |
| Birds | | | |
| Golden eagle <i>Aquila chrysaetos</i> | CSC, FP | Nests on cliffs and tall trees in variety of habitats, including oak woodlands | May nest in oak woodland along ridgeline alternative; previous nesting record on PGE tower in vicinity |
| Cooper's hawk <i>Accipiter cooperii</i> | CSC | Nests in trees of oak woodland, riparian, and coniferous forests | May nest in oak woodlands or oak riparian habitats |
| White-tailed kite <i>Elanus leucurus</i> | FP | Nests in oak woodland, riparian woodland | Potential to nest in oak woodland or oak riparian habitats |
| Northern harrier <i>Circus cyaneus</i> | CSC | Nests in tall grasses, marshes | Potential to nest in grasslands, especially along ridgeline alternative |
| Western burrowing owl <i>Athene cunicularia hypugea</i> | CSC | Nests and winters in grasslands with burrows and short vegetation | May occur in grasslands with suitable burrows |
| California horned lark <i>Eremophila alpestris actia</i> | CSC | Short, sparsely vegetated grasslands | May occur on Tulare Hill |
| Loggerhead shrike <i>Lanius ludovicianus</i> | CSC | Open habitats with scattered shrubs, tree, lookout posts | May nest in sage or coyote brush scrub where adjacent to open grasslands |
| Mammals | | | |
| San Francisco dusky-footed woodrat <i>Neotoma fuscipes annectens</i> | CSC | Riparian and oak woodlands | Likely to occur in denser portions of oak woodland and oak riparian |
| San Joaquin kit fox <i>Vulpes macrotis mutica</i> | FE, ST | Grasslands, scrub habitats | Area outside current known range. Not expected to occur here. |

¹ Key to status:

| | | |
|-----|---|---|
| FC | = | Federal candidate for listing as endangered |
| FE | = | Federally listed as endangered species |
| FT | = | Federally listed as threatened species |
| ST | = | State listed as threatened species |
| FP | = | State listed as fully protected species |
| CSC | = | California species of special concern |

Appendix K

Table K3 - Summary of Opportunities and Constraints by Habitat Type

| Habitat Type | Habitat Conservation Potential | Trail Development Potential |
|--------------------------|---|---|
| Serpentine Grassland | High - Significant potential for land management for serpentine grassland resources; opportunities for habitat reserves for Bay checkerspot butterfly, horned lark, serpentine endemic plant species | Moderate - Constraints to trail development may include regulatory permitting for federally-listed insect (Bay checkerspot butterfly, if present); development may require mitigation measures, including habitat preservation and management. ROUTES: Alternatives 1,2, 3, 4 in areas where new construction would be required to close an existing gap or traverse a new alignment |
| Non-Serpentine Grassland | Moderate - Non-serpentine grasslands have potential to support burrowing owl and possibly California tiger salamander (CTS) if adjacent to suitable breeding ponds. | Low - Moderate- Constraints to trail development would occur if grasslands were confirmed to support burrowing owls or CTS including development of a mitigation plan to offset impacts ROUTES: Alternatives 3, 4 in areas where new construction would be required |
| Seasonal Wetlands | Moderate to High - Seasonal wetlands are regulated by ACOE; may support California tiger salamander or California red-legged frog if water depth and inundation sufficient for breeding by these species. | Moderate- Constraints to trail development would occur in areas mapped as seasonal wetlands. Trail development would likely require bridges or boardwalk or wetland management. ROUTES: Alternatives 1,2, 3, 4 in areas where new construction would be required to close an existing gap or traverse a new alignment |
| Oak Riparian Woodland | Moderate - Riparian woodlands have high value to wildlife; important wildlife habitat and movement corridors; potential for California red-legged frog and several special status nesting birds to occur. | Moderate- Constraints to trail development would occur in areas mapped as riparian woodland; Trail would need to minimize tree removal and wildlife impacts ROUTES: Alternatives 1,2, 3, 4 in areas where new construction would be required to close an existing gap or traverse a new alignment |
| Oak Woodlands | Moderate - Oak woodlands have high value to wildlife; important wildlife habitat, especially for nesting raptors. | Moderate- Constraints to development would occur in areas mapped as woodland; tree preservation would be required, particularly for large-sized trees. ROUTES: Alternative 4 in areas where new construction would be required |
| Diablan Sage Scrub | Moderate to High - Potential for serpentine endemic plant species | Moderate - Constraints to trail development would be presence of special status species. ROUTES: Alternatives, 3, 4 in areas where new construction would be required |

Appendix L - Traffic

Appendix L - Traffic Assessment

Focus of Assessment

This traffic study evaluates potential traffic impact and issues associated with developing a trail within the Santa Teresa Trail Corridor. The intent is to provide a route that would connect Almaden Lake City Park/Alamos Creek Trail, Santa Teresa County Park, and the Coyote Creek Park Chain incorporating, where feasible, the Coyote Alamos Canal maintenance road into a public trail. Development of this trail, if feasible, would provide a connection between these three recreation areas for pedestrians, bicyclists, and potentially equestrians that would be free of motorized vehicular traffic.

This assessment presents a preliminary assessment of traffic opportunities and constraints for three alternative trail routes:

- ❖ Alternative 1 - Construct the Trail on the Existing Maintenance Road
- ❖ Alternative 2 - Modify Canal Right of Way to Create a Wider Trail
- ❖ Alternative 3 - Santa Teresa Hills Ridgeline Route

For the purposes of this preliminary traffic assessment, Alternatives 1, 2 and 3 have been combined on the assumption that each of the alternatives would require the same trail crossings for the following intersections:

- ❖ Miracle Mountain Drive
- ❖ Coleman Road
- ❖ Winfield Blvd.
- ❖ Bernal Road
- ❖ Santa Teresa Blvd.
- ❖ Monterey Highway.

The alignment proposed for *Alternative 5 - Use of On-Street Bicycle Routes and Sidewalks to Connect Almaden Lake City Park and Santa Teresa County Park* was not evaluated since this proposed alignment is overlaid primarily on the adopted City bicycle network and has largely been implemented. A traffic assessment was not conducted for *Alternative 4 - Existing Public Lands in the Project Area between Blossom Avenue and Santa Teresa Park* since this route is not proposed to cross any streets.

Higgins Associates conducted this preliminary traffic assessment for the Santa Teresa Trail Corridor in late spring 2002. Study methodology included field reconnaissance, manual traffic

counts on two weekdays and two weekends, and literature review of applicable Environmental Impact Reports (EIRs).

Existing Transportation Network

Within the trail corridor there are six major streets, Miracle Mountain Drive, Coleman Road, Winfield Blvd., Bernal Road, Santa Teresa Blvd. and Monterey Highway. Refer to *Map 7 - Roadway Gaps to Trail Continuity* for a plan of the street and transit system within the project area and *Figure _ - Views of Roadway Crossings* for views of some of the roadway gaps in trail continuity. The Union Pacific Railroad (UPRR) parallels Monterey Highway. Both Caltrain Commuter Service and the Union Pacific freight trains use these railroad tracks. The Valley Transportation Authority (VTA) operates the Ohlone/Chynoweth - Almaden light rail line within the project area. The Almaden station located across from Almaden Lake City Park is the closest light rail station to the western terminus of the canal. VTA also operates fixed-route buses in the project area. There is a proposal to extend the Baypointe – Santa Teresa light rail line from the Santa Teresa station to Bailey Avenue. This light rail extension is proposed to travel along Santa Teresa Blvd. Funding and scheduling for the proposed light rail extension are not yet determined. Refer to *Figure L-1 - VTA Light Rail* for a diagram of the light rail routes and stops.

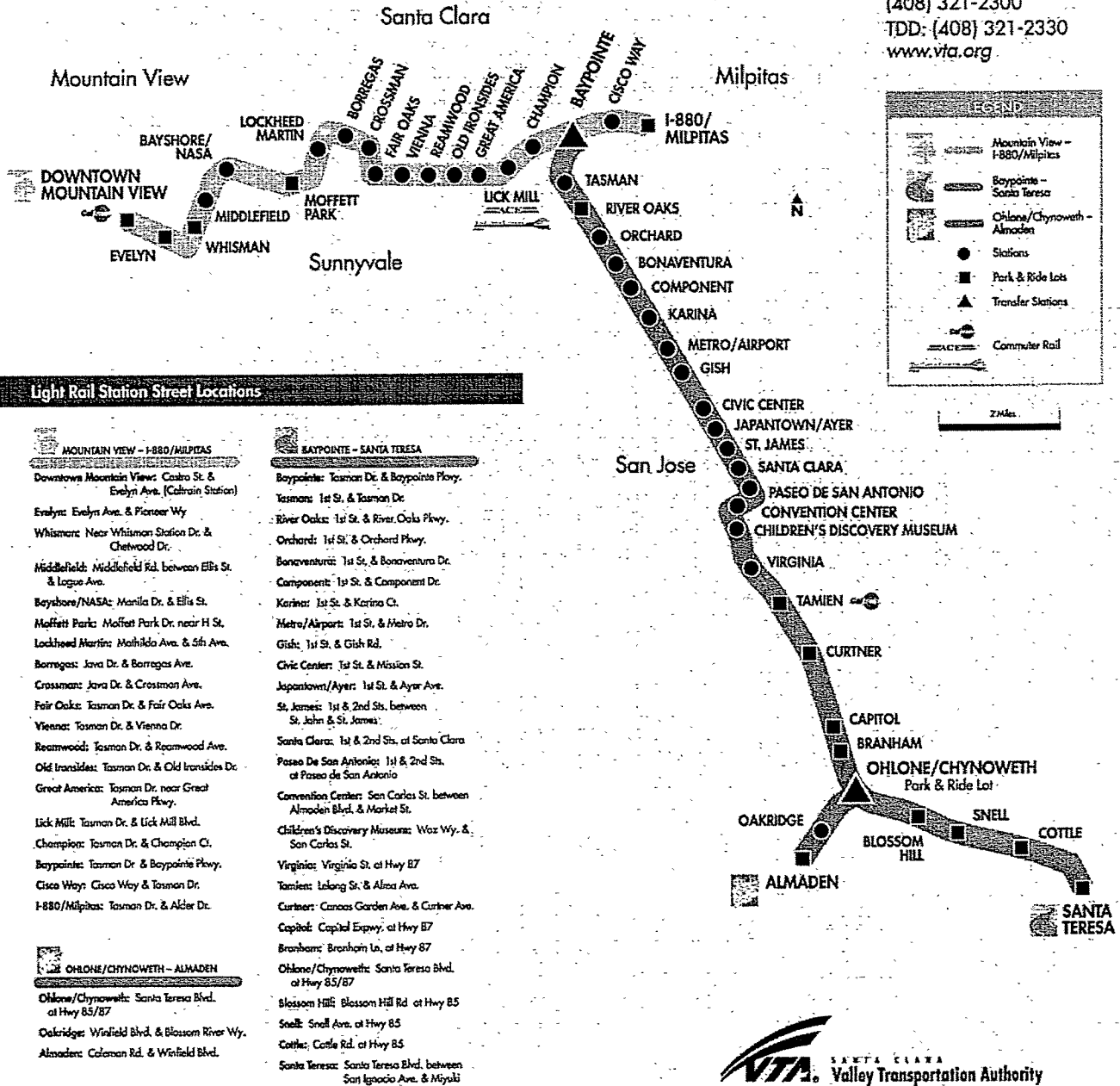
The existing street network, including bicycle and pedestrian facilities and public transit services, are described in the following paragraphs. Traffic count data are presented in the section below that describes existing motorized vehicular volumes.

Winfield Boulevard

Winfield Blvd. provides the primary access to Almaden Lake City Park, the Calero Alamos Creek Trail and the Boulder Ridge Golf Course. This street would also provide a logical point to access the Coyote Alamos Canal Trail for Alternatives 1, 2 and 3. Winfield Blvd. is a four-lane collector located between Coleman Road and Almaden Lake Drive. The street is signalized at the nearest intersection, which is Coleman Road. The posted speed limit is 30 mph. South of Almaden Lake Drive, the street narrows to two lanes and terminates at the entrance to the Boulder Ridge Golf Course. Parking is allowed on the street and fee parking is available at Almaden Lake City Park. Users of the Los Alamos Calero Creek Trail currently employ both of these parking options.

VTA LIGHT RAIL

(408) 321-2300
TDD: (408) 321-2330
www.vta.org



Miracle Mountain Drive

Miracle Mountain Drive is a residential street that terminates at the canal right of way. Single family residential housing is located south of Miracle Mountain Drive. High-density residential developments are located north of the street. At the terminus of the street is a very steep serpentine rock embankment. Water from the canal is piped under the street and continues to be piped along an easement that runs through a high-density residential complex, across Winfield Blvd. and into Almaden Lake. The configuration of the street, and its proximity to the canal right of way and two high-density residential complexes, create a potential access point for the trail. Access from Miracle Mountain Road, or identification of an alternate route at its terminus, is necessary for Alternatives 1 and 2. Currently, there are no opportunities to provide staging at this point. If this site were to become an access point to the trail, the activity of trail users parking along Miracle Mountain Drive could result in disruptive noise levels, public gathering and conflicts with on-street parking for the single family residents that live along this street.

Coleman Road

Coleman Road is a four-lane, minor arterial extending between Almaden Expressway and Santa Teresa Blvd. The posted speed limit is 40 mph. Coleman Road has 12 to 14-foot wide lanes, left-turn pockets, and a raised median. There are striped and signed Class II bike lanes on both sides of the street. Coleman Road, between Winfield Blvd. and Miracle Mountain Road, is proposed as an alternative alignment for Alternatives 1 and 2. Alternative 5 identifies Coleman Road as one of the primary streets that could provide an on-street connection between Almaden Lake City Park and Santa Teresa County Park.

Bernal Road

Within Santa Teresa County Park, Bernal Road is a two-lane winding road with limited sight lines. East of the park Bernal Road is first a collector street and then an arterial providing access to Highway 101. Bernal Road provides the only vehicular entrance into Santa Teresa County Park from the east side of the Santa Teresa Hills. This road bisects the park nearly down the middle and provides access to the Pueblo Day Use Area and the IBM research facility. Access to IBM is secured. Only IBM employees and park personnel are permitted into the facility and allowed to continue on Bernal Road into Almaden Valley on the west side of Santa Teresa Hills. As the canal maintenance road is not a designated park trail, there is not an identified crossing within the canal alignment. Depending on the selected trail route through the County Park for Alternatives 1, 2, and 3, there are some designated crossings on Bernal Road uphill from the canal alignment that could potentially be incorporated into the trail route. These crossings include marked crosswalks and stop signs

for both motor vehicles on Bernal Road and trail users crossing the road. Crossing constraints along Bernal Road are primarily associated with limited visibility resulting from the curvilinear road alignment and steep terrain.

Santa Teresa Boulevard

Alternatives 1, 2, and 3 are proposed to cross Santa Teresa Blvd. at the crest of Santa Teresa approximately .3 mile south of Cheltenham Way. This crossing is also where the Alamitos Canal is piped under the road. Santa Teresa Blvd. is classified as a minor arterial with two to four lanes within San Jose. It extends from the Highway 85/87 interchange in San José to Gilroy. Within the County's boundary, this street is classified as an Arterial Primary Urban (APU). Santa Teresa Blvd. has 12 to 14-foot wide lanes, left-turn pockets, and a 48-foot median, 9-foot paved shoulder, and striped and signed Class II bike lanes that extend from Coleman Road to Bailey Road. The posted speed limit on Santa Teresa Blvd. on Santa Teresa Blvd. between Coleman Road and Cottle Road is 40 mph and between Cottle Road and Bernal Road is 45 mph. South of Bailey Road the speed limit is 50 mph.

Monterey Highway

Monterey Highway is the former route of U.S. 101. It passes through San José and continues south through Morgan Hill. It runs parallel to, and between, the Union Pacific Railroad and U.S. 101. Monterey Highway is classified as a four-lane divided arterial by the City of San José and as an APU by Santa Clara County for the portion that is in the County's jurisdiction. South of the Bernal Road overpass the posted speed limit on Monterey Highway is 55 mph. The road has 12 to 13-foot wide lanes, 6-foot paved shoulders, and left-turn lanes. Occasionally there are bicyclists traveling on the road shoulders. The Coyote Creek Trail runs largely parallel to U.S. 101 and crosses under the U.S. 101/State Route 85 interchange. South of the interchange the Coyote Creek Trail runs between U.S. 101 and Monterey Highway.

Existing Vehicular Volumes

To determine the adequacy of the individual potential crossing locations and allow for warrant analysis of crossing controls, turning movement counts were conducted. These traffic analyses were performed on both weekdays and Saturdays at the six locations listed on *Appendix L - Table 1* (Counts were not taken for Bernal Road because this road crossing is contained within Santa Teresa County Park). The count locations are graphically shown on *Appendix L - Figures 1*. The counts included vehicular, pedestrian and bicycle traffic volume counts. Manual counts were conducted on weekdays from 7:00 to 9:00 a.m. and

from 2:00 to 6:00 p.m. (Tuesday, June 4, Wednesday, June 5, Tuesday, June 11, and Wednesday, June 12, 2002). Saturday counts were conducted on June 8 and June 15, 2002 from 11:00 a.m. to 2:00 p.m. The traffic counts were conducted during the Insert Figure 1 count locations diagram school year to take into account home-school related commutes, as well as home-work related commutes. The peak period turning movement volumes and adjacent roadway segment volumes were determined from the traffic counts and presented on *Appendix L - Figures 2, 3, 4, 5*.

Appendix L

Table L-1 - Traffic Count Locations

| | |
|----|--|
| 1. | Winfield Blvd. at Almaden Lake Drive |
| 2. | Coleman Road at Miracle Mountain |
| 3. | Coleman Road at Foothill Drive |
| 4. | Santa Teresa Blvd. between Cheltenham Way and Byliss |
| 5. | Santa Teresa Blvd. at Cheltenham Way |
| 6. | Monterey Highway at Metcalf Road |

Existing

Non-motorized Facilities

Regional Trails

There are two Class I bicycle trails in the vicinity of the Coyote Alamitos Canal. Proposed routes identified in Alternatives 1, 2, and 3 would connect to both of these trails. Various users, such as cyclists, pedestrians and joggers use both trails heavily.

The Coyote Creek Trail is located east of the Coyote Alamitos Canal. The closest point from the Coyote Creek Trail to the Coyote Alamitos Canal Trail is the Monterey Highway /Metcalf intersection. This 33-mile, paved, shared use trail is one of the longest (approximately 16 miles have been completed in the project area extending from Capital Expressway to Cochrane) in the Bay Area.

The Calero /Alamitos Creek Trail runs in a southerly direction from Almaden Lake City Park to connect with the Stiles Ranch Trail in Santa Teresa County Park. It parallels the western toe of the Santa Teresa Hills for its entire 4.5-mile length. The closest point from the Calero /Alamitos Creek Trail to the Coyote Alamitos Canal Trail is Almaden Lake City Park, which is approximately 0.7 mile from the western end of the Coyote Alamitos Canal, which terminates at Miracle Mountain Drive.

Bike Lanes

Both Coleman Road and Santa Teresa Blvd. BIKE LANE AT CREST OF HILL WHERE CROSSING IS PROPOSED??? provide striped and signed Class II bike lanes (proposed route for

FIGURE 2 - EXISTING WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES

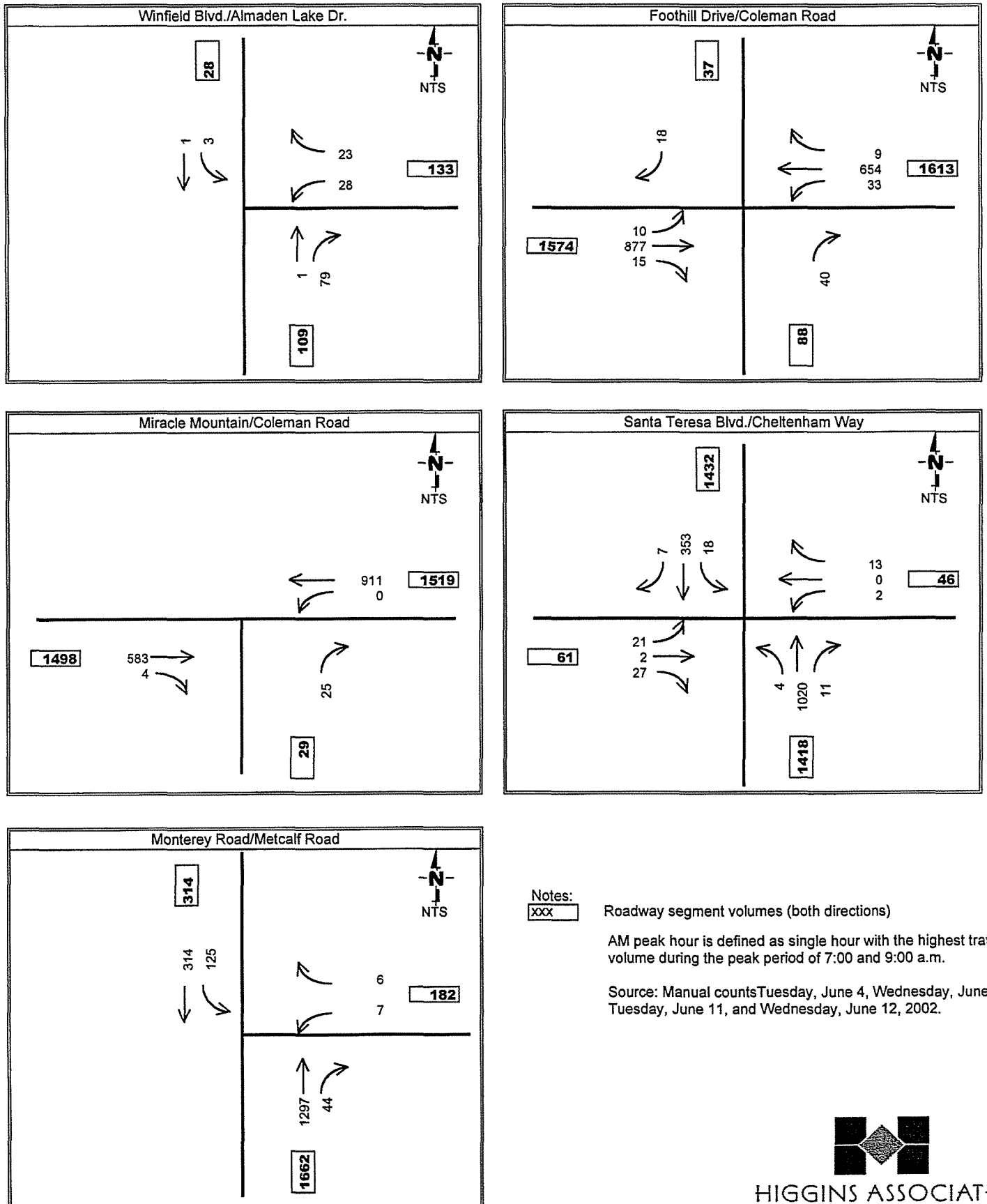


FIGURE 3 - EXISTING WEEKDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES

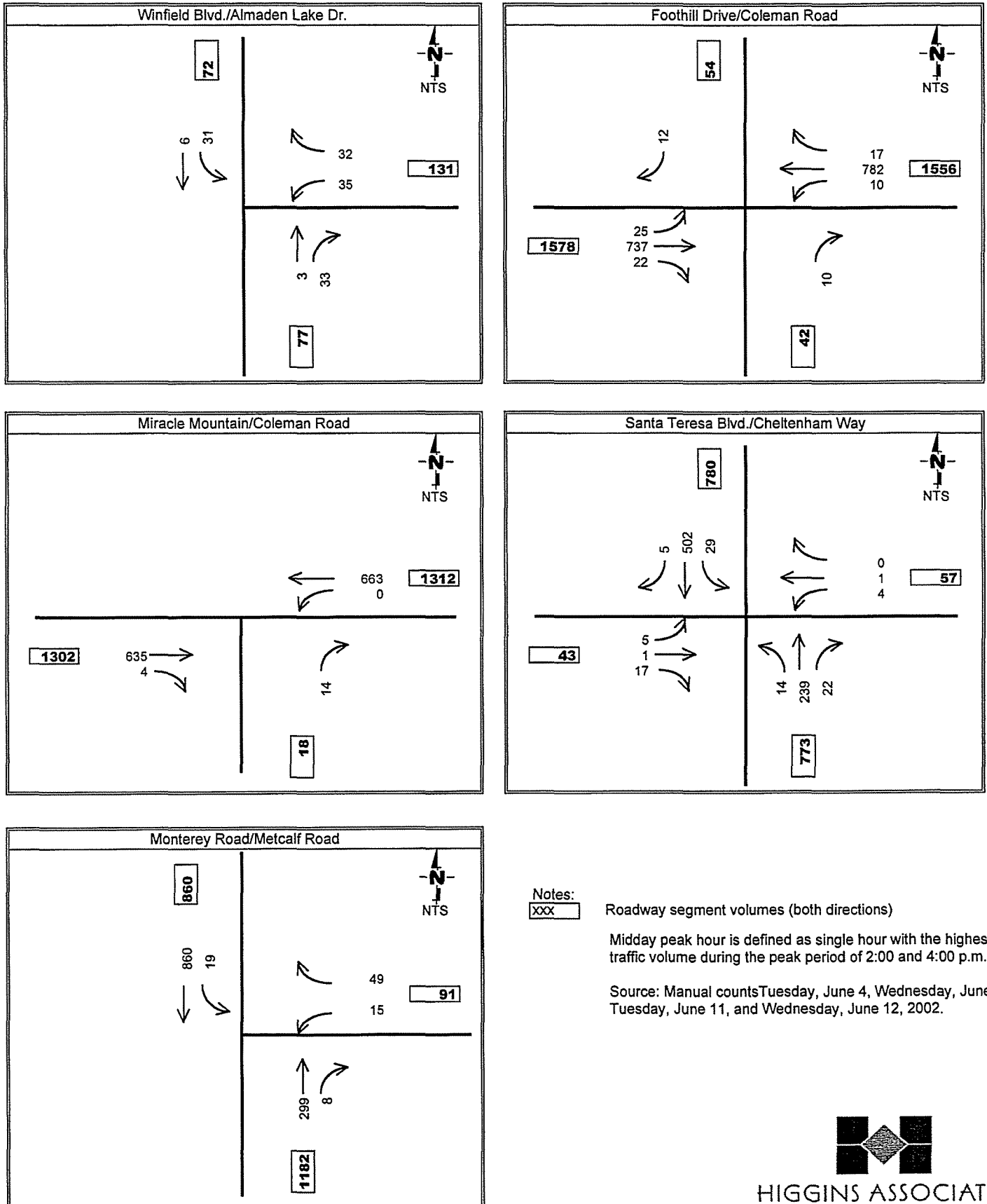


FIGURE 4 - EXISTING WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES

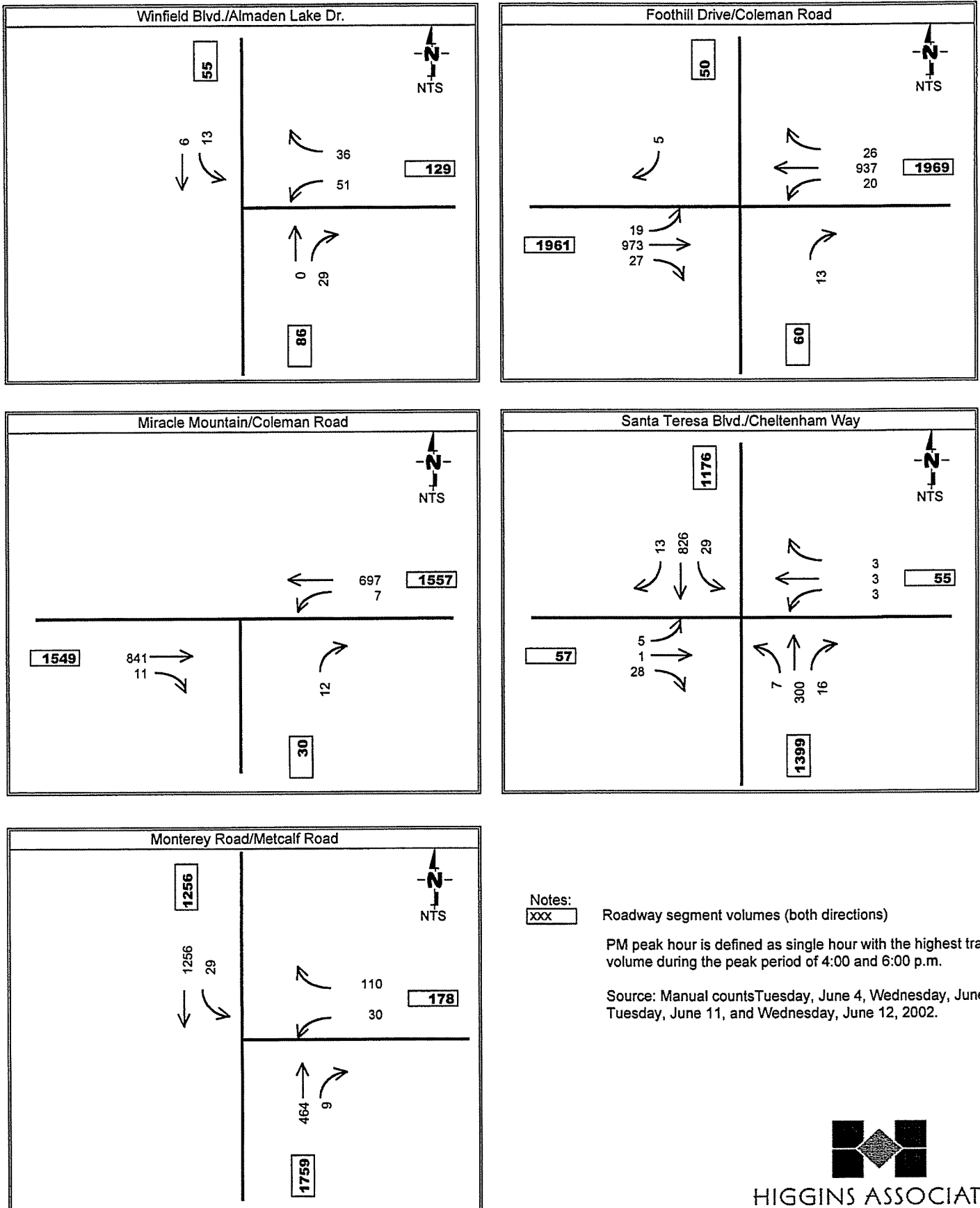
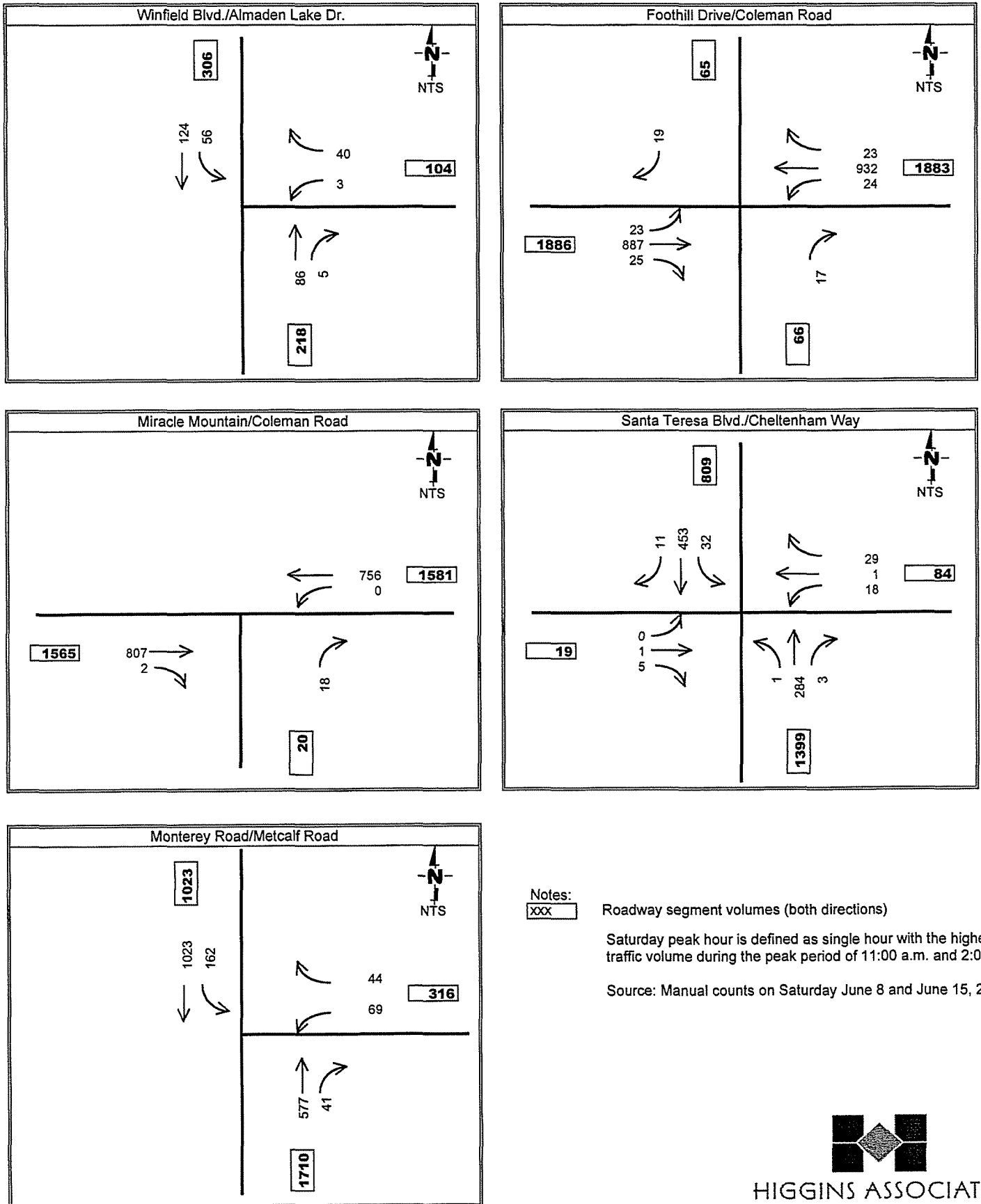


FIGURE 5 - EXISTING SATURDAY PEAK HOUR TRAFFIC VOLUMES



Alternative 5). Although no striping or signage is provided, bicycle travel is allowed on other connecting streets, such as Winfield Blvd, Miracle Mountain Drive, Foothill Drive and Cheltenham Way.

Trail Crossing Locations Issues & Options

At those locations where the Coyote Alamitos Canal interfaces with the street infrastructure, siphon stations were installed to direct the water through pipes under the street. At these points, there is no canal maintenance road. There are five potential crossing locations along the trail route where this condition occurs. These conditions create a barrier to trail continuity for Alternatives 1, 2, and 3. Major traffic-related issues for each of these crossings are summarized in Table 2 and discussions for the individual crossing locations are included in the following paragraphs.

Appendix L
Table L-2 - Potential Crossing Locations & Issues

| Crossing Location | Major Traffic-Related Issues |
|--|---|
| Winfield Blvd. at Almaden Lake Dr | Cross traffic on Winfield Blvd. Pedestrian safety facilities non-existent |
| Coleman Rd at Miracle Mountain Rd | Potential conflicts between trail users & vehicular traffic Left-turn restrictions & raised, landscaped median on Coleman Rd. limit access onto/off of Miracle Mountain Rd. High traffic volumes (1613 vph at peak am, 1969 vph @ peak pm) and speed (40 MPH) on Coleman Road create safety concerns |
| Bernal Road - Santa Teresa County Park | Cross traffic on Bernal Road Pedestrian facilities at the canal non-existent Steep, winding road limits pedestrian/vehicular visibility |
| Santa Teresa Blvd | High traffic volumes (1418 vph at peak am, 1399 vph @ peak pm) & speed (45 MPH), limited visibility, & potential for VTA rail line in road right of way create safety concerns & design challenges Mid-block crossing with no existing pedestrian safety improvements or traffic calming devices create safety concerns & design challenges Surrounding private property ownership may constrain approaches to developing an overcrossing |
| Monterey Highway | High traffic volumes (1662 vph at peak am, 1759 vph @ peak pm) & speed (55 MPH), variations in elevations of the two approaches to the road crossing create safety concerns & design challenges UPRR with height constraints for an overcrossing and non feasibility of developing an at-grade crossing create design challenges Lack of existing pedestrian improvements or traffic calming devices create safety concerns and design challenges |

Winfield Blvd. at Almaden Lake Drive

Winfield Blvd. would provide a logical point for accessing the Coyote Alamos Canal Trail. This segment of the street south of Coleman Road already has high recreation usage due to its close proximity to the Almaden Lake City Park and the Calero/Alamos Creek Trail. Connecting the Coyote Alamos Canal Trail to Winfield Blvd. would require extending the trail from the canal's current terminus at Miracle Mountain Drive. Future trail users could use existing on-street parking and fee parking at Almaden Lake City Park. To provide a safe crossing for pedestrians and cyclists, the following traffic safety measures are recommended for this location:

1. Install pedestrian crossing signs to alert motorists of cross traffic. Install warning signs to alert trail users of street crossing.
2. Stripe pedestrian crosswalks on all sides of the Winfield Boulevard/Almaden Lake Drive intersection. Improve the existing handicap access ramps.
3. Ensure adequate parking is provided for the increased use.

Crossing South of Coleman Rd at Miracle Mountain Dr

The Coyote Alamos Canal ends at Miracle Mountain Drive. From here the easement that runs through the high-density residential complex has been dedicated in part to an emergency access and in part to parking. Development of a trail along this easement would require overlaying a portion of the trail on the emergency access road and revamping the parking in a complex that is already constrained for available parking. These physical constraints, along with concerns about bringing a regional trail through a private high-density residential complex, render this alignment impractical.

Another option would be to route the trail away from the canal right of way at a point south of the Miracle Mountain Drive and the canal siphon. The most likely route would begin at Crossview Avenue and generally follow the existing volunteer pedestrian trail up the west slope of the hill located at the terminus to Miracle Mountain Drive. From top of the hill (Miracle Mountain), the trail could skirt the length of the south edge of Almaden Lake Apartments to Winfield Blvd. The main issues associated with routing the trail up and over the top of Miracle Mountain would include the potential to exacerbate erosion, adversely impact the existing biotic communities and/or disturb potential archaeological resources.

If this route segment proves to be infeasible, an alternative route would be to leave the canal at Miracle Mountain Drive and continue north on Miracle Mountain Drive to Coleman Road. At Coleman Road the trail would be directed west (left) for one block to Winfield Blvd. At Winfield Blvd. the route would be directed south to Almaden Lake City Park. The main issues

associated with this route would be the median divider that restricts left turns off Coleman Road onto Miracle Mountain Road and left turns onto Coleman Road from Miracle Mountain Road. In addition, routing the trail along city streets could raise safety concerns, especially for families traveling with young children, or older children traveling without adult supervision.

Providing a connection from the Coyote Alamitos Canal to Miracle Mountain Drive could result in an increase of traffic to this street, which could be disruptive to neighborhood residents. If a connection from the trail end to the street is provided, there could be potential conflicts between trail users and existing vehicular traffic and on-street parking. The width of these streets is not adequate to accommodate both on-street parking and bike lanes and ADT volumes would not warrant bike lanes, though the streets could be signed as Class III bike routes.

Crossing Coleman Road would present additional challenges. Coleman Road has high traffic volumes during the peak hours (1,613 vph during the AM peak hour and 1,969 vph during the PM peak hour) and high travel speeds. Left turn movements from either Miracle Mountain Drive or Foothill Drive onto Coleman Road is prohibited by means of a raised median. Cyclists exiting northbound from either street and trying to travel westbound would need to take a detour. For example, a cyclist trying to travel from Miracle Mountain Drive to Almaden Lake City Park would have to turn right on Coleman Road, travel eastbound on Coleman Road, then make a u-turn at Santa Teresa Boulevard. The extra one mile added by this detour might discourage some cyclists from following the proper route. Some people may ignore the left-turn restriction and cross Coleman Road directly. To provide safe and direct crossing at Coleman Road, the following improvements are recommended for consideration:

1. Break the raised median on Coleman Road to allow pedestrian and bicycle crossing. Widen the remaining median, as necessary, at the intersection to provide sufficient pedestrian and bicycle refuge in case pedestrians and cyclists are not able to cross the entire street in one continuous movement.
2. Install pedestrian crossing signs and flashing beacon to alert motorists.
3. Provide a pedestrian crosswalk on the west side of the Coleman Road / Miracle Mountain Drive intersection. A second crosswalk on the eastside is optional. Install handicap access ramps at all crosswalk locations.

Santa Teresa Blvd. Crossing

The Coyote Alamitos Canal runs in a pipe under Santa Teresa Blvd. and reappears on the other side, at the crest of the road.

The crest of the road is located approximately one mile south of Bernal Road. Refer to *Figure 3 Views of Roadway Crossings*. This proposed mid-block crossing has limited visibility, high traffic volumes (1,418 vph during the AM peak hour and 1,399 vph during the PM peak hour) and high speeds. The posted speed limit is 45 mph. In addition to motor vehicle traffic, VTA has proposed to extend the light rail train system along this section of Santa Teresa Blvd. There are several options to provide a trail crossing at this location:

1. Provide an at-grade crossing within the canal alignment with all or some combination of these proposed improvements:
 - Basic pedestrian crossing improvements: crosswalks, handicap access ramps, and pedestrian crossing signs
 - Lighted pedestrian crosswalks with an advanced flashing beacon at both the northbound and southbound approaches
 - Basic pedestrian improvements with a pedestrian signal and advanced flashing beacons (pole-mounted or Cantilever / Mastarm mounting).
2. Provide a pedestrian bridge within or near the canal alignment as conditions allow
3. Locate the trail crossing at a signalized intersection below the crest of the hill, either at Cheltenham Way or at the proposed intersection to the south that will provide access to the proposed Cisco and Calpine developmentsⁱ. Reroute the proposed alignments for Alternative 1,2 and 3 along Santa Teresa Blvd. and provide appropriate pedestrian/bicycle improvements.

A more extensive study is necessary to evaluate various issues associated with the above options. These include, but are not limited to, property ownership of the land south of the canal on both sides of the road, design parameters and environmental mitigations that would be required to bridge both Santa Teresa Blvd. and the ravine located east of Santa Teresa Blvd.

Monterey Highway

The eastern end of the Coyote Alamos Canal is located approximately 40 feet above Monterey Highway near its intersection with Metcalf Road on the northeast corner of Tulare Hill. Refer to *Figure 3 Views of Roadway Crossings*. With the Metcalf Park and the Coyote Parkway Lakes in close proximity, this is a logical location to link the future Coyote Alamos Canal Trail with the Coyote Creek Trail. However, Monterey Highway has high traffic volumes (1,662 vph during the AM peak hour and 1,759 vph during the PM peak hour) and travel speed. A traffic signal with pedestrian crossing improvements is located on the north side of the intersection, which could facilitate a safe passage to the west side of the road, but there aren't any pedestrian facilities to access on the west side of the road.

Additionally, in order to reach the start of the eastern terminus of the canal this crossing design must resolve differences in elevations at the two approaches, and railroad height restrictions.

There are several options recommended for future study in order to provide a safe crossing over Monterey Highway and the Union Pacific Railroad. These include, but are not limited to:

1. Provide a pedestrian/bicycle bridge to cross both Monterey Highway and the Union Pacific Railroad at the canal terminus
2. Incorporate a pedestrian/bicycle facility into new vehicular bridge between Metcalf Road and Bailey Road
3. Route trail south of canal and provide a pedestrian/bicycle bridge.

A potential alternative for the Monterey Highway /Union Pacific Railroad and Santa Teresa Blvd. crossings is the Bailey Avenue connection. Bailey Avenue is an east-west street located less than two miles south of the Metcalf Road. Bicycle lanes are planned along both sides of Bailey Avenue within the road right-of-way. The planned U.S. 101/Bailey Avenue Interchange project includes an over crossing at U.S. 101, a new bridge over Coyote Creek and an at grade intersection at Monterey Highway. Once the project is complete, pedestrian and bicycle crossing over the UPRR and Monterey Highway will be improved ⁱⁱ

ⁱ First Amendment to the Draft Environmental Impact Report for Coyote Valley Research Park, City of San Jose, September 2000.
Santa Clara Valley Transportation Authority, project information on U.S. 101/Bailey Avenue Interchange

ⁱⁱ First Amendment to the Draft Environmental Impact Report for Coyote Valley Research Park, City of San Jose, September 2000.
Santa Clara Valley Transportation Authority, project information on U.S. 101/Bailey Avenue Interchange

Appendix M - Summary Comparison of Trail Alternatives

Table M-1
Summary Comparison of Trail Alternatives

| Alternative | Design & Use | Ownership Opportunities & Challenges** | City Policy Compliance | Hydrological & Geotechnical Challenges | Transportation Engineering Challenges | Environmental Resource Challenges | Maintenance | Community Support |
|--|--|--|---|---|---|--|---|--|
| Alt. 1 Trail on the Existing Maintenance Road | <p>Design Use existing canal maintenance road</p> <p>Surface Use existing compacted aggregate</p> <p>ADA Compliance Virtually level surface, minor improvements</p> <p>Width 7'-6" -10' wide (substandard)</p> <p>Recreation Use Pedestrian/bicycle/ potentially equestrian, -Direct access from ex. neighborhoods</p> <p>Commute Use Possible linkage to schools, few employment centers in the area</p> <p>Vehicle Use SCVWD maintenance vehicles. Could accommodate trail patrol/ maintenance vehicles</p> <p>Incompatible Uses Golf course, archery range, high voltage electrical lines</p> <p>Landscaping Consider options for partial screening of trail from residences</p> | <p>Ex. Ownership - 77 parcels (10.8 mi.)</p> <p>SCVWD-19 parcels (1.7 mi.)</p> <p>Private 48 parcels (6 mi.)</p> <p>County 10 - parcels (3 mi.)</p> <p>City Ex. City streets that cross the canal right of way (.1 mi.)</p> <p>Railroad 1 parcel (80' wide)</p> <p>Ex. Easements - SCVWD 41 easements across private lands (6 mi.)</p> <p>6 easements- through County Park (1 mi.)</p> <p>PG&E 8 easements across the canal</p> <p>City 1 access easement</p> | <p>City General Plan Consistent with General Plan</p> <p>Greenprint Consistent if security concerns of property owners are addressed.</p> <p>Bicycle Plan & Network Planning Map On-street bike network - Consistency is not applicable</p> | <p>Hydrological Incidental sheet flow from hillsides into canal drainage results in winter flooding of residences & streets below canal</p> <p>Geotechnical Ongoing landslides & erosion of the canal's service road embankment</p> | <p>Roads Challenges associated with all 5 street crossings</p> <p>Railroad Major challenges associated with railroad crossing</p> | <p>Biological &/or Archaeological Resources Potential impacts where gaps in canal would req. new trail construction</p> | <p>Maintenance & Operations Funding & staffing to address anticipated ongoing landsliding within & adjacent to the canal</p> | <p>Entire Canal Route - 40%</p> <p>Trail: Cahalan - Coyote Creek 30%</p> <p>Focused Study- County Park to Coyote Creek 100%</p> |

** Mileage is approximate - calculations based on map data, not field survey

Table M-1
Summary Comparison of Trail Alternatives

| Alternative | Design & Use | Ownership Opportunities & Challenges** | City Policy Compliance | Hydrological & Geotechnical Challenges | Transportation Engineering Challenges | Environmental Resource Challenges | Maintenance | Community Support |
|---|--|---|--|---|---|--|---|--|
| <p>Alt. 2 Trail on Existing Maintenance Road and Filled Canal</p> <p><u>The Primary Difference between Alt. 1 & Alt. 2 - Trail Design</u></p> <p>Alt. 2 would remove approx. 54% of the canal. Remainder to be retained due to the lack of conveyance capacity of the City of San José storm drainage system</p> | <p>Design- Canal to be filled, trail widened by filling canal and using maintenance road. Transition areas between wider & narrower sections of trail.</p> <p>Surface potentially asphalt &/or compacted aggregate</p> <p>ADA Compliance Virtually level surface, minor improvements</p> <p>Width - Accommodates std-width asphalt trail (12' wide) & gravel shoulders (2' wide)</p> <p>Recreation Use - Pedestrian/bicycle/ potentially equestrian, -Direct access from ex. neighborhoods</p> <p>Commute Use Possible linkage to schools, few employment centers in the area</p> <p>Vehicle Use - SCVWD maintenance vehicles. Could accommodate trail patrol/ maintenance vehicles</p> <p>Incompatible Uses Golf course, archery range, high voltage electrical lines</p> <p>Landscaping Allows for a wider landscape area within canal right of way</p> | <p>Ex. Ownership - SAME AS ALT. 1.</p> <p>SCVWD- SAME AS ALT. 1.</p> <p>Private SAME AS ALT. 1</p> <p>County SAME AS ALT. 1</p> <p>City SAME AS ALT. 1</p> <p>Railroad SAME AS ALT. 1</p> <p>Ex. Easements - SCVWD SAME AS ALT. 1</p> <p>PG&E SAME AS ALT. 1</p> <p>City SAME AS ALT. 1</p> | <p>City General Plan Consistent with General Plan</p> <p>Greenprint Consistent if security concerns of property owners are addressed.</p> <p>Bicycle Plan & Network Planning Map On-street bike network - Consistency is not applicable</p> | <p>Hydrological Ex. potential for large unrestricted flood flow over the canal area during storm events if the channel is removed</p> <p>Geotechnical Filling canal removes buffer between foothill's unstable soils & residences. Could result in increased erosion & slides downhill of the canal & impacts to nearby homes if saturation of soils occurred</p> <p>Construction would be complex & costly req. filling of channel & installation of new drainage structure, & erosion control measures.</p> | <p>Roads Challenges associated with all 5 street crossings</p> <p>Railroad Major challenges associated with railroad crossing</p> | <p>Biological &/or Archaeological Resources Potential impacts where gaps in canal would req. new trail construction and as a result of new construction within the ex. right of way</p> | <p>Maintenance & Operations Funding & staffing to address anticipated ongoing landsliding within & adjacent to the canal</p> | <p>Entire Canal Route - 40%</p> <p>Trail: Cahalan to Coyote Creek 30%</p> <p>Focused Study-County Park to Coyote Creek 100%</p> |

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Table M-1
Summary Comparison of Trail Alternatives

| Alternative | Design & Use | Ownership Opportunities & Challenges** | City Policy Compliance | Hydrological & Geotechnical Challenges | Transportation Engineering Challenges | Environmental Resource Challenges | Maintenance | Community Support |
|--|---|--|--|---|---|---|--|--|
| <p>Alt. 3 Trail along Santa Teresa Hills Ridgeline</p> <p><u>Primary difference between Alternative 1 & Alternative 3 - Trail Route</u></p> <p>Alternative 3 - trail would be routed away from the canal up to the ridgeline between Almaden Lake City Park & Colleen Rd.</p> <p>Near Colleen Rd. ridgeline route would be directed back to the canal where it would continue to Coyote Creek.</p> | <p>Design Ex. ranch roads, canal maintenance road</p> <p>Surface Ridgeline - Native soil Canal - aggregate base</p> <p>ADA Compliance Ridgeline- ADA access difficult - steep terrain Canal - SAME AS ALT. 1</p> <p>Width Ridgeline- 10' - 12' ex. ranch roads. Canal - 7' - 6" - to 10' wide</p> <p>Recreation Use Ridgeline- Steep terrain could discourage use Canal - Pedestrian/bicycle/ potentially equestrian, -Direct access from ex. neighborhoods</p> <p>Commute Use Steep terrain, relative remote terrain would discourages commuting</p> <p>Vehicle Use - Ridgeline- May be difficult to accommodate patrol/ maintenance vehicles Canal- SCVWD maintenance vehicles. Could accommodate trail patrol/ maintenance</p> <p>Incompatible Uses Golf courses, archery range, high voltage electrical lines</p> <p>Landscaping Ridgeline- Mitigation planting may be req. where new construction is req. Canal- SAME AS ALT. 1</p> | <p>Ex. Ownership 70 parcels (10.8 mi.)</p> <p>Ridgeline 3 parcels - private ranch lands (1 mi.)</p> <p>Canal 67 parcels SCVWD 17 parcels (1.3 mi.) Private 39 parcels (5.4 mi.) County SAME AS ALT. 1 City SAME AS ALT. 1 Railroad SAME AS ALT. 1</p> <p>Ex. Easements - SCVWD 39 easements across private lands (5.4 mi.)</p> <p>6 easements- through County Park (1 mi.)</p> <p>PG&E SAME AS ALT. 1 City SAME AS ALT. 1</p> | <p>City General Plan Ridgeline Route would not be compatible</p> <p>Greenprint Ridgeline Route would not be compatible</p> <p>Bicycle Plan & Network Planning Map On-street bike network - Consistency is not applicable to this Alt.</p> | <p>Hydrological Would not resolve winter flooding and high maintenance costs associated with existing canal infrastructure</p> <p>Geotechnical SAME AS ALT. 1 along canal</p> <p>Additionally would req. construction over steep terrain up to the ridgeline & across steep drainages where there are gaps in ex. sections of the ranch roads Engineering feasibility studies may be needed where the trail design must traverse steep, unstable terrain.</p> | <p>Roads Challenges associated with all 5 street crossings</p> <p>Railroad Major challenges associated with railroad crossing</p> | <p>Biological &/or Archaeological Resources Would have a greater potential to impact biological & / or archaeological resources since new construction would be required to provide a continuous trail along the ridgeline, in addition to new construction req. to close existing gaps along the canal route.</p> | <p>Maintenance & Operations Funding & staffing to address anticipated ongoing landsliding within & adjacent to the canal</p> <p>Steep terrain of Ridgeline Route could require higher level of funding due to steep conditions.</p> | <p>Ridgeline Trail Route - 75%</p> <p>Preserving Santa Teresa Hills as Open Space - (Enhancing Opps. to Dev. Ridgeline Trail) 100%</p> <p>Trail: Cahalan-Coyote Creek 30%</p> <p>Focused Study- County Park to Coyote Creek 100%</p> |

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**Table M-1
Summary Comparison of Trail Alternatives**

| Alternative | Design & Use | Ownership Opportunities & Challenges** | City Policy Compliance | Hydrological & Geotechnical Challenges | Transportation Engineering Challenges | Environmental Resource Challenges | Maintenance | Community Support |
|--|--|--|---|--|--|--|--|--|
| Alt. 4 Short Trail along Existing Public Lands between Blossom Avenue & Santa Teresa Park <u>Primary difference between Alt. 1 & Alt. 4 -Trail Route & Function</u> Trail would be located below the canal maintenance road on existing City & SCVWD land between Blossom Ave & Santa Teresa County Park. | <u>Design-</u> To be determined as part of Master Planning process for public parklands <u>Surface</u> To be determined as part of Master Planning process <u>ADA Compliance</u> Steep terrain -difficult to develop ADA compliant access. Ex. pathway surfaces & widths are not compliant <u>Width</u> Constrained area may only accommodate 4' - 6' footpaths <u>Recreation Use</u> Potential to create series of parks on ex. public land below the canal Easy access from local neighborhoods - opps. for family-oriented recreation Land area not adequate land available to develop a continuous trail <u>Commute Use</u> NONE <u>Vehicle Use</u> Constrained area could not accommodate patrol/ maintenance vehicles <u>Incompatible Uses</u> To be determined as part of Master Planning process <u>Landscaping</u> To be determined as part of Master Planning process | <u>Ex. Ownership</u> - 50 parcels -(2.5 mi.) <u>SCVWD</u> 3 parcels (.25 mi.) <u>Private</u> 28 parcels (1.05 mi.) <u>County</u> none <u>City</u> 7 parcels (1.2 mi.) Includes sections where public lands are as narrow as 5'. <u>Ex. Easements</u> - <u>SCVWD</u> 1 easement across private lands <u>Ex. Dev. Req.</u> - Trail / Park subject to ex. CC&R restrictions | <u>City General Plan</u> Would not be compatible with General Plan goals <u>Greenprint</u> Would not meet City's Greenprint strategies for creating a citywide trail network <u>Bicycle Plan & Network Planning Map</u> On-street bike network - Consistency is not applicable | <u>Hydrological</u> Alignment would not resolve flooding & maintenance costs associated with canal infrastructure <u>Geotechnical</u> Would not resolve ongoing landslides along the canal. Could exacerbate conditions below the canal if construction & maintenance of bufferlands do not comply with CC&R restrictions | <u>Roads</u> No street crossings as part of this Alternative. Ex. streets provide opportunities for access from local neighborhoods. <u>Railroad</u> Not applicable | <u>Biological &/or Archaeological Resources</u> Sensitive biological resources including serpentine rock outcroppings, & suitable habitat for burrowing owl | <u>Maintenance & Operations</u> Limited areas for maintenance vehicles to access trail corridor | <u>Consultant Recommendation</u> This Alternative was not recommended by consultant team <u>Community Support</u> No vote taken for Alternative 4 |

** Mileage is approximate - calculations based on map data, not field survey

**Table M-1
Summary Comparison of Trail Alternatives**

| Alternative | Design & Use | Land Ownership Opportunities & Challenges** | City Policy Compliance | Hydrological & Geotechnical Engineering Challenges | Transportation Engineering Challenges | Environmental Resource Challenges | Maintenance | Community Support |
|--|---|---|--|---|---|--|---|---|
| <p>Alternative 5 No Off-Street Trail. Use of On-Street Bicycle Routes and Sidewalks to Connect Almaden Lake City Park and Santa Teresa County Park</p> <p><u>Primary difference between Alternative 1 & Alternative 5 - Trail Route, Design, & Function</u></p> <p>Pedestrian & bicycle route using Winfield Blvd., Coleman Road, Santa Teresa Blvd. & Bernal Road (going from north to south).</p> | <p><u>Design</u> Sidewalks & on-street bicycle lanes (Class II) & routes (Class III) per City roadway standards</p> <p><u>Surface</u> Concrete sidewalks, asphalt roadway</p> <p><u>ADA Compliance</u> Per City roadway standards</p> <p><u>Width</u> Per City roadway standards</p> <p><u>Recreation Use</u> Would not create family-oriented recreation opps. Would not accommodate equestrian use.</p> <p><u>Commute Use</u> Would provide home - work commute opps. For bicyclists & opps. for pedestrians to connect to transit</p> <p><u>Vehicle Use</u> Entirely in street right of way - motorized use would not be limited.</p> <p><u>Incompatible Uses</u> None adjacent to route</p> <p><u>Landscaping</u> Per City roadway standards</p> | <p><u>Ex. Ownership</u> - Totally within the public right of way (5.7 mi.)</p> | <p><u>City General Plan</u> Would not be compatible with General Plan goals</p> <p><u>Greenprint</u> Would not meet Greenprint goals</p> <p><u>Bicycle Plan & Network Planning Map</u> Would implement Citywide Transportation Bicycle Network Plan</p> | <p><u>Hydrological</u> Alignment would not resolve flooding associated with canal infrastructure</p> <p><u>Geotechnical</u> Would not resolve ongoing landslides along the canal.</p> | <p><u>Roads</u> Much of the pedestrian & bikeway system in place. Req. modifications to striping, signage, signalization controls in some places to provide pedestrian & bicycle continuity along entire route.</p> <p><u>Railroad</u> Not applicable</p> | <p><u>Biological &/or Archaeological Resources</u> As the route would be located within a constructed right of way, biological & archaeological impacts would be minimal.</p> <p>Opportunities to identify & interpret Juan Bautista de Anza National Historic Trail.</p> | <p><u>Maintenance & Operations</u> Per City roadway maintenance standards</p> <p>Alignment would not resolve maintenance req. & costs associated with canal infrastructure</p> | <p><u>Support for Alternative 5</u> 0% support as a viable alternative to the canal trail.</p> |

** Mileage is approximate - calculations based on map data, not field survey